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HARVARD MEDICAL SCHOOL

1968–1969

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1968—1969

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The Offices of Administration of the Medical School are located in the Administration Building at 25 Shattuck Street, Boston; those of the School of Dental Medicine, at 188 Longwood Avenue, Boston.

The office of the President of the University is located at One Massachusetts Hall, Cambridge.

The Comptroller's Office is in Holyoke Center, Cambridge. It is open on all business days from 9:00 a.m. to 5:00 p.m., except Saturdays, for the receipt of fees, payments, and other financial business.

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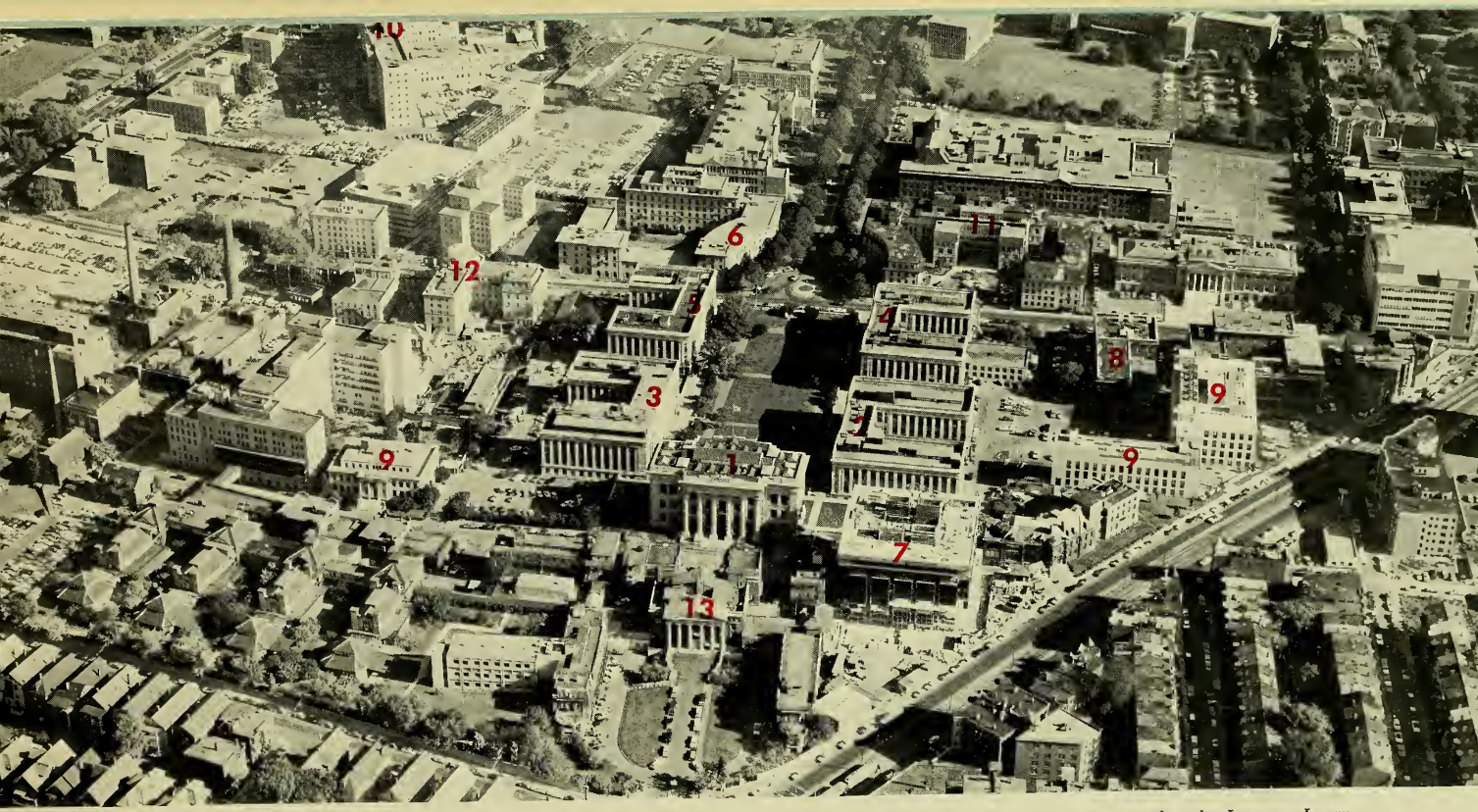

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Building A (1), B (2), C (3), D (4), E (5), Vanderbilt Hall (6), Library (7), S.D.M. (8), S.P.H. (9), B.I.H. (10), B.H.W. L-i. Div. (11), C.H.M.C. (12), P.B.B.H. (13)

CONTENTS

Academic Calendar 4
President and Fellows of Harvard College 6
The Board of Overseers 7
Overseers' Committee to Visit the Medical School and the School of Dental Medicine 9
Administrative Officers 10
Administrative Board 12
History and Organization 14
Buildings 16
School of Dental Medicine 17
Libraries 18
Warren Anatomical Museum 19
Hospital Facilities 20
- Beth Israel Hospital 20
- Boston City Hospital 20
- Boston Hospital for Women 21
- Children's Hospital Medical Center 22
- McLean Hospital 24
- Massachusetts Eye and Ear Infirmary 25
- Massachusetts General Hospital 26
- Massachusetts Mental Health Center 27
- New England Deaconess Hospital 27
- Peter Bent Brigham Hospital 28
- Veterans Administration Hospital (West Roxbury) 29

Harvard Medical Center 29
Requirements for Admission 30
Department of Continuing Education 39
Division of Medical Sciences 40
School of Public Health 42
General Regulations 42
- Examinations and Promotion 42
- Non-Resident Student Status 45
- Leave of Absence 45
- Withdrawal from the School 45

Degrees 46
Fees and Expenses 49
- Microscopes 50
- Dormitory 51

Dining Hall 52
Student Health Service 52
Student Employment 53
Scholarships 53
Loan Funds 82
Fellowships 86
Research Funds 90
Cancer Commission of Harvard University 91
Prizes 91
Lectureships 93
The Undergraduate Assembly 94
General Plan of Instruction 94
The First Two Years 95
The Third and Fourth Years 98
The Tutorial Program and Student Research 100
Division of Hours 104
Announcement of Courses 106
Anatomy 106
Bacteriology and Immunology 111
Biological Chemistry 116
Dental Medicine Courses in the Medical School 126
Dermatology 127
Medicine 130
Neurobiology 163
Neurology 165
Neuropathology 172
Obstetrics and Gynecology 173
Ophthalmology 180
Howe Laboratory of Ophthalmology 184
Orthopedic Surgery 185
Otology and Laryngology 190
Pathology 193
Pediatrics 203
Pharmacology 215
Physiology 219
Preventive Medicine 222
Psychiatry 226
Radiology 251
Surgery 256
Interdepartmental and Special Courses 277
Tropical Public Health 278
School of Public Health 280
Degrees Conferred in June 1968 281

Internships, Class of June 1968 286
Students Enrolled in Medical School 294
Colleges Represented 316
Medical Schools Represented 317
Students on Leave of Absence 318
Non-Resident Students 318
School of Dental Medicine 319
Degrees Conferred in 1968 320
Students Enrolled 321
Colleges Represented 324
Medical Schools Represented 324
Professors Emeriti 325
Officers of Administration and Instruction 328
Index 365

HARVARD MEDICAL SCHOOL

Academic Calendar for 1968–1969

Thursday, July 4, 1968	Independence Day: a holiday.
August 19–September 8	Vacation for the Class of 1969.
Monday, September 2	Labor Day: a holiday.
Monday, September 9	Registration Day for second year class. Academic year begins for second year class. Registration Day for fourth year class (Class of 1969). Principal Clinical Year continues for Class of 1969.
Friday, September 13	Registration Day for third year class.
Monday, September 16	Registration Day for first year class. Academic year begins for first and third year classes.
Saturday, October 12	Columbus Day: a holiday.
Monday, November 11	Veterans' Day: a holiday.
Thursday, November 28	Thanksgiving Day: a holiday.
Sunday, December 1	Principal Clinical Year ends for Class of 1969.
Saturday, December 7	Introduction to the Clinic ends for third year class (Class of 1970).
Monday, December 9	Principal Clinical Year begins for Class of 1970.
December 22, 1968–January 5, 1969	Recess for first and second year classes.
Thursday, January 2	Elective Period begins for fourth year class.
Tuesday, January 14	Second half year begins for second year class.
January 27–February 1	Examination period for first year class.
Monday, February 3	Spring Term begins for first year class.
Monday, February 17	Washington's Birthday: a holiday.
March 3–March 9	Recess for the Class of 1970.
Tuesday, April 1	Last day for filing application for the degree of M.D. in June 1969.
March 30–April 6	Recess for first and second year classes.
Monday, May 26	Memorial Day: a holiday.
Friday, May 30	Alumni Day.
Saturday, May 31	Class Day for Class of 1969.
June 2–7	Examination period for second year class.

Monday, June 9	Summer Term begins for first year class.
Thursday, June 12	Commencement.
Friday, July 4	Independence Day: a holiday.
Wednesday, July 23	Summer Term ends for first year class.

THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE

This Board is commonly known as the Corporation

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Nathan Marsh Pusey, A.B., A.M., Ph.D., LL.D., L.H.D., D.LITT., LITT.D.

Fellows

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Richmond Keith Kane, A.B., LL.B.
Francis Hardon Burr, A.B., LL.B.
Albert Lindsay Nickerson, S.B.
Hugh Calkins, A.B., LL.B.

Treasurer

George Frederick Bennett, A.B.

Secretary to the Corporation

Sargent Kennedy, A.B., S.M., M.B.A.

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The President and the Treasurer of the University, *ex officio*, and the following persons by election: —

1969

Edward Livingston Bigelow, A.B.
Francis Taylor Pearsons Plimpton, A.B. LL.B., LL.D., L.H.D.
Henry Jacob Friendly, A.B., LL.B., L.H.D., LL.D.
Francis Sargent Cheever, A.B., M.D., Sc.D. (hon.)
Robert Amory, Jr., A.B., LL.B.

1970

Alfred Hamilton Barr, Jr., A.B., A.M., Ph.D., Litt.D., D.F.A. (hon.), A.F.D. (hon.)
Lammot du Pont Copeland, S.B., LL.D., S.D. (hon.), H.H.D.
Thomas Hopkinson Eliot, A.B., LL.B., LL.D.
Donald Frederick Hornig, S.B., Ph.D.
Amory Houghton, Jr., A.B., M.B.A., LL.D.

1971

John Crocker, A.B., B.D., Litt.D., D.D., LL.D.
Jesse Leonard Greenstein, A.B., A.M., Ph.D.
Robert Louis Hoguet, Jr., A.B., M.B.A.
James Henry Rowe, Jr., A.B., LL.B.
Osborn Elliott, A.B.

1972

Richard Ammi Cutter, A.B., LL.B., S.J.D. (hon.)
Henry Chauncey, A.B., S.D. (hon.), Litt.D., LL.D.
Paul Henry Nitze, A.B., LL.D.
Clarence Douglas Dillon, A.B., LL.D.
Thomas Vincent Learson, A.B.

1973

Albert Hamilton Gordon, A.B., M.B.A.
William Appleton Coolidge, A.B., M.A., LL.B.
Gardner Cowles, A.B., LL.D., L.H.D.
Francis Keppel, A.B., LL.D., L.H.D., Ped.D.
George Putnam, A.B., M.B.A.

1974

William Davis Taylor
Theodore Harold White, A.B.
Robert Channing Seamans, Jr., A.B., S.M., S.D., S.D. (hon.)
Elliot Lee Richardson, A.B., LL.B., LL.D., L.H.D.
Andrew Felton Brimmer, A.B., A.M., Ph.D.

Secretary of the Board of Overseers

Sargent Kennedy, A.B., S.M., M.B.A. 25 Massachusetts Hall, Cambridge

Assistant Secretary of the Board of Overseers

James Robbins Reynolds, A.B. 28 Massachusetts Hall, Cambridge

*(The term expires, in each case, on Commencement Day of the year indicated.)

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F. Stanton Deland, Jr., *Vice-Chairman*

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Marshal Stearns
George H. Taber
George G. Walker
Joseph T. Wearn
Jerome B. Wiesner
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Assistant Dean of the Faculty of Medicine for Student Affairs: Hermann Lisco, M.D.

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Assistant Dean of the Faculty of Medicine for Financial Affairs: Richard John Olendzki, B.Sc., M.B.A.

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Assistant to the Dean of the Faculty of Medicine for Curriculum: Robert Stanley Blacklow, A.B., M.D.

Assistant to the Dean of the Faculty of Medicine for Architectural Planning: William Lawrence Garvin, S.B., B.Arch., M.Arch.

Assistant to the Dean of the Faculty of Medicine: JOHN HOWARD MOXLEY 3D, A.B., M.D.

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Director of Medical Information in the University News Office: HERBERT ARTHUR SHAW, A.B.

Director of the Animal Research Center and *Director of the New England Regional Primate Research Center:* BERNARD FRANCIS TRUM, A.B., D.V.M.

Registrar: AUDREY NOREEN KOLLER, A.B.

Librarian: HAROLD JOHN BLOOMQUIST, A.B., S.M.

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†* Robert H. Ebert, S.B., D.Phil., M.D., *Dean of the Faculty of Medicine* and *Professor of Medicine.*

‡* Joseph W. Gardella, S.B., M.D., *Associate Dean of the Faculty of Medicine for Student Affairs* and *Lecturer on Medicine.*

* Perry J. Culver, A.B., M.D., *Associate Dean for Admissions of the Faculty of Medicine* and *Clinical Associate in Medicine.*

* Daniel D. Federman, A.B., M.D., *Assistant Dean of the Faculty of Medicine for Continuing Education* and *Assistant Professor of Medicine at the Massachusetts General Hospital.*

* James J. Feeney, A.B., M.D., *Director of the Medical Area Health Service* and *Member of the Faculty of Medicine.*

* Paul Goldhaber, D.D.S., S.B., A.M. (hon.), *Dean of the School of Dental Medicine and Professor of Periodontology.*

* Dieter Koch-Weser, M.D., S.M., Ph.D., *Associate Dean of the Faculty of Medicine for International Programs.*

* Sidney S. Lee, S.B., M.D., M.P.H., Dr.Phil., *Associate Dean of the Faculty of Medicine for Hospital Programs.*

* Henry C. Meadow, S.B., *Associate Dean of the Faculty of Medicine for Financial Affairs* and *Executive Secretary to the Committee on Research and Development.*

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* *Ex-officio.*
† *Chairman.*
‡ *Secretary.*

HISTORY AND ORGANIZATION OF THE HARVARD MEDICAL SCHOOL

On September 19, 1782 the President and Fellows of Harvard College adopted a report by President Joseph Willard and former Acting President Edward Wigglesworth embodying a plan for a medical school. This action was followed on November 22, 1782 by the appointment of Dr. John Warren of Boston as the first Professor of Anatomy and Surgery. Shortly thereafter Dr. Benjamin Waterhouse was appointed Professor of the Theory and Practice of Physic. The original faculty was completed in May. 1783, when Dr. Aaron Dexter was named Professor of Chemistry and Materia Medica.

The Harvard Medical School, now nearing the close of its second century of uninterrupted teaching dedicated to the treatment and prevention of the ills of man, was the third medical school to be established in the United States. The first school was organized in 1765 in the College of Philadelphia (now the University of Pennsylvania), the second in 1767 in King's College (now Columbia University).

The first degrees of Bachelor of Medicine awarded by Harvard University were conferred in 1788. Until 1811, the degrees of Bachelor of Medicine and Doctor of Medicine were conferred, the former on graduation from the Medical School, the latter on examination at least seven years after graduation. In 1811 the degree of Doctor of Medicine was granted to graduates of that year and to earlier graduates who had not been admitted to it. All graduates since 1811 have received the degree of Doctor of Medicine.

During its long history, the Medical School has occupied seven different sites. The first classes were held in the basement of Harvard Hall in the Harvard College Yard. Later they were transferred next door to Holden Chapel, a building which was

originally the College Chapel but through the years has served as a carpenter shop, a chemistry laboratory, a museum, and is now the home of the Harvard Glee Club. To be close to such hospital facilities as might be developed in Boston, the Medical School, in 1810, was moved out of the Yard to quarters at 49 Marlborough Street (now 400 Washington Street) in Boston. Six years later, the Medical School occupied the first structure built especially for its use, located on Mason Street in Boston. At this time, and for a period of 42 years thereafter, the School bore the title of "The Massachusetts Medical College of Harvard University."

In 1847, new quarters were established on North Grove Street opposite the Massachusetts General Hospital and here the School remained until 1883, when the move was made to 688 Boylston Street and a building that was expected to be the "home of medicine for generations." The School's vigorous growth soon made these quarters inadequate. Accordingly, the five marble buildings that today form the Longwood Avenue Quadrangle were erected. At their dedication on September 25, 1906, Dr. Charles W. Eliot, President of the University, in his acceptance address, described them as: "The largest single addition to the resources of the University which has ever been placed in the hands of the Corporation since it received its charter in 1650."

These buildings were built on 11 acres of an original 26 acre tract, the remaining 15 acres being reserved for the hospital facilities that, it was expected, would be built around the School. Four hospitals and the Harvard Schools of Dental Medicine and Public Health are now located in this general area.

Prior to 1906 most clinical teaching was carried on in the Massachusetts General and Boston City Hospitals. Opportunities for clinical teaching and investigation have increased greatly since the Longwood Quadrangle was established, through the new hospitals surrounding the School and affiliated with it.

BUILDINGS

The Administrative Building (A), with 65,000 square feet of floor space, contains the Faculty Room, the Administrative Offices of the Medical School, the Alumni Office, the Courses for Graduates Office, the Warren Anatomical Museum, the News Office for the Medical Area, and the teaching laboratories for Histology and Neuroanatomy.

The laboratory buildings, designated by the letters B, C, D, and E, were all constructed on the same general plan — two parallel wings united at the front by an amphitheatre with a seating capacity of two hundred and fifty. To keep pace with present day requirements, the original facilities are continually being adapted, remodeled and even rebuilt while preserving the outside walls. In Building B, added research laboratories and teaching facilities have replaced the amphitheatre. Both the smaller rooms and the laboratories are designed on a unit system which greatly simplifies changes required in suiting these rooms to the future needs of departments. The amount of floor space varies considerably in each of the four buildings.

Building B accommodates the Departments of Anatomy, Neurobiology and Pharmacology. In this building each wing has five floors and a total floor space of 132,000 square feet.

Building C provides space for the Departments of Biological Chemistry and Physiology, and the Office of the Division of Medical Sciences. In this building there are four floors in one wing and five floors in the other. The building has a total floor space of 115,000 square feet.

Building D is occupied by the Departments of Bacteriology, Pathology, Preventive Medicine, the Division of Medical Sciences, Laboratory, the Biophysics Laboratory, and laboratories of the Department of Medicine. In this building each wing has five floors, with a total of floor space of 109,000 square feet.

Building E houses the Department of Tropical Public Health of the School of Public Health and teaching facilities for Gross Anatomy. A new addition provides quarters for Surgical Re-

search. There are three floors in one wing and four floors in the other, with a floor space of 68,000 square feet.

Vanderbilt Hall, the student dormitory, was opened in 1927.

The Francis A. Countway Library of Medicine described on page 18 was opened in 1965.

SCHOOL OF DENTAL MEDICINE

Founded in 1867, the Harvard School of Dental Medicine was the first university affiliated school for dentistry in the United States. The School, a responsibility of the Faculty of Medicine since 1899, offers a four year course that leads to the degree of Doctor of Dental Medicine.

During the first two academic years the courses of instruction are nearly identical with those of the Medical School. The third and fourth years are under the direct supervision of the staff of the School of Dental Medicine. The recipient of the degree of D.M.D. from the School of Dental Medicine is well prepared to meet State Board requirements for license to practice dentistry. Graduates are also ready for the advanced study and experience recommended for any of the specialties of dentistry.

Access to the research laboratories of the School in the elective time during the third and fourth years permits unusual training for those having dental research in mind as a career.

The requirements for admission parallel those of the Medical School, except that the Dental Aptitude Test is required in place of the Medical College Admission Test. Qualified students and graduates of approved medical schools who wish to specialize in dentistry may be admitted to the School of Dental Medicine with advanced standing.

Full details are available in the catalogue of the School of Dental Medicine.

LIBRARIES

The Francis A. Countway Library of Medicine opened its doors to readers in June 1965. Located at the Medical School, it combines the resources and services of the Harvard Medical Library and the Boston Medical Library. Among libraries serving medical schools, it is among the largest in the country. Its recorded holdings number 425,000 volumes, and it receives more that 5,000 different periodicals. The Countway Library is open:

8:00 a.m. to 11:30 p.m. weekdays
9:00 a.m. to 5:00 p.m. Saturdays
2:00 p.m. to 11:30 p.m. Sundays

In addition to its holdings of current books and periodicals, the Countway Library has extensive collections of historical materials, dating from the 15th Century. Its Rare Books Department provides modern facilities for the use of these books and other rarities.

For the convenience of the several departments of the School, collections of books and journals are maintained in a number of other buildings. Among the more important convenience collections are:

Anatomy Library (Building B, 3d floor)
Bowditch Library of Physiology and Biochemistry (Building C, 3d floor)
Lucien Howe Library of Ophthalmology (at the Massachusetts Eye and Ear Infirmary)

All members of the University may borrow from the College Library at Cambridge. Messenger service is provided daily from the College Library and various other University Libraries.

The Boston Public Library issues cards to permanent and to temporary residents of Massachusetts. Others may obtain cards upon payment of a small fee. Other libraries of the Boston area, notably those of the Massachusetts Institute of Technology, add to the total book and periodical resources available to students.

The librarian is Harold J. Bloomquist, and Earle M. Chapman is chairman of the Library Committee of the Faculty.

WARREN ANATOMICAL MUSEUM

The Warren Anatomical Museum was founded in 1847 by John Collins Warren, of the College Class of 1797, Adjunct Professor of Anatomy and Surgery from 1809 to 1815, Hersey Professor of Anatomy and Surgery from 1815 to 1847, Professor *Emeritus* from 1847 to his death in 1856, son of John Warren, the first Hersey Professor of Anatomy and Surgery.

The Curator of the Museum is Dr. Don W. Fawcett, Hersey Professor of Anatomy.

The collection comprises several thousand specimens illustrating both normal and pathological anatomy. These include dissections, skeletons, viscera, and the Dwight Collection illustrating skeletal variations and cross sections of bones. There is a growing number of gross neuropathological specimens and an extensive series of total brain sections prepared under the direction of the former Curator, Dr. Paul I. Yakovlev. These are available for study by qualified graduate students upon application to the Department of Neuropathology.

Also housed in the Museum are the records of the Longitudinal Studies of Child Health and Development conducted between 1929 and 1960 by Dr. Harold C. Stuart, Professor *Emeritus* of Maternal and Child Health at the Harvard School of Public Health. These records pertain to 134 children followed from birth to their eighteenth year and 175 other children followed from birth for shorter periods. The data include health histories, radiographs of skeletal development, body measurements, measurements of intelligence and observations on the family and home environment. Permission to use these records for research purposes may be obtained through the Department of Maternal and Child Health, Harvard School of Public Health.

HOSPITAL FACILITIES

Beth Israel Hospital

Founded in 1916 "to give medical and surgical aid and care, dispensary and outpatient service to the sick and disabled of any race, creed or color, and to carry on such educational, philanthropic and scientific activities and functions as are a part of efficient modern hospital service," this general hospital contains 368 beds and 62 bassinets. All beds are teaching beds; no distinction is made between the private patient and the "chief's service" or "ward" patient. Among the major teaching hospitals of Harvard Medical School, it offers the broadest range of services, through major departments of medicine, surgery, anaesthesia, obstetrics-gynecology, pathology, pediatrics, psychiatry and radiology, each under the direction of full-time faculty members. There is a Medical Intensive Care Unit and a Surgical-Respiratory Intensive Care Unit. Many well equipped laboratories for clinical investigation and basic research, comfortable seminar and lecture rooms, and a convenient medical library, are available to students in the Medical School. In 1968, approximately 14,000 inpatient admissions and 2,800 deliveries accounted for 120,000 patient days of hospital care. Interest in community medicine is manifest through an Outpatient Department (61,300 annual visits), Emergency Ward (23,600 annual visits), Home Care Program (10,800 annual patient days), and Child Care and Maternal and Infant Care Programs housed at New England Hospital in Roxbury. There is also a close relationship with the Hebrew Rehabilitation Center for Aged, where the medical problems of over 500 elderly citizens fall within the purview of Beth Israel Hospital.

Boston City Hospital

In 1966, the Boston City Hospital and the Boston Health Department merged into the Boston Department of Health and Hospitals. The merged Department consists of the acute general hospital, two chronic disease hospitals, and a division of Com-

munity Health Services. The main hospital contains 990 beds plus 96 bassinets for newborn and 128 beds for infants and children. There are 334 beds at the Mattapan Chronic Disease Hospital, of which 165 are for chronic diseases and 169 for tubercular patients. The Long Island Chronic Disease Hospital has 937 beds — 604 of these are for chronic care and 333 for custodial care. The Community Health Services consists of eight health units and ten special clinics in various sections of the community.

Over 300 beds in the main hospital are available to the teaching units of the Medical School. The Second and Fourth Medical Services, the Fifth Surgical Service, the Neurological and Neurosurgical Services are under the direction of Professors of the Harvard Medical School. In addition there are other specialties open to students.

The Thorndike Memorial Laboratory, established in 1923 for medical research, includes a metabolism ward and is an integral part of the Harvard Medical Unit. It is an internationally known center of medical investigation in the treatment of blood disorders, infectious diseases and disorders of the liver, kidney, thyroid and heart. The Sears Surgical Laboratory, established in 1955 as part of the Harvard Surgical Unit, is associated with the Fifth Surgical Service under the direction of the Professor of Surgery who is Head of that Service. It provides a modern amphitheatre, conference rooms, animal quarters, library, and laboratories for surgical research. The Departments of Neurology and of Pathology also maintain active research laboratories. In addition there are well-equipped service laboratories for pathology, chemistry, metabolism, and immunology. Four amphitheatres and various conference rooms are used in student instruction. The hospital maintains an admirable general working library and two special libraries.

Boston Hospital for Women

The Boston Hospital for Women was formed in 1966 by merger of the two Harvard-affiliated hospitals specializing in the care of

women. These were the Boston Lying-in Hospital and the Free Hospital for Women which have been re-named the Lying-in Division and the Parkway Division.

The Lying-in Division, located at 221 Longwood Avenue, has 174 beds. Approximately one-third are on the ward service and an increasing number of private beds are also available for teaching. Although this Division is primarily obstetrical, a certain amount of surgical gynecology is also performed here. There are chemistry, pathology, bacteriology and blood bank laboratories and an x-ray department. A new wing attached to the hospital is completely devoted to research laboratories.

The Parkway Division, located at 245 Pond Avenue, Brookline, is devoted exclusively to the care of women with gynecological conditions. The hospital has 90 beds, 32 of them on wards, but almost all available for teaching. In addition to standard laboratory facilities and a library, the hospital houses the Cytology Laboratory for the Women's Hospital and has laboratories oriented toward research in reproduction and neoplasia.

Children's Hospital Medical Center

This is an affiliation of ten voluntary institutions concerned with the care of children, with teaching, with research, and with child health. Included are the following:

The Children's Hospital

This hospital has been located on Longwood Avenue adjacent to the Medical School since 1914. It is a general hospital for the care of children from infancy through adolescence. Pediatric, surgical, neurosurgical, neurological, orthopedic, dental, radiologic, psychiatric, pathologic, and otolaryngologic services with their associated specialties are maintained. Special clinical facilities are provided for adolescents. There are 343 beds, with an average daily census in 1968 of 310 patients. During the year ending September 30, 1968, it rendered 113,320 days of care to 12,376 inpatient admissions. (These figures are inclusive of The

Children's Hospital, Infants' Hospital, Sharon Sanatorium, and The House of the Good Samaritan. In addition, there were 173,715 visits to 53 outpatient clinics. Full laboratory and diagnostic services are provided for the study of material from the house and outpatient services.

The Sharon Sanatorium

This organization sponsors the Sharon Cardiovascular Unit composed of 28 beds devoted to the care of non-rheumatic cardiovascular disorders including congenital heart disease. It is included in The Children's Hospital as described above.

The Infants' Hospital

Established as a memorial to Thomas Morgan Rotch, Jr., the Infants' Hospital operated in close conjunction with The Children's Hospital from 1923 to 1961, at which time there was a complete merger. There are 29 beds which are devoted to the care of infants in addition to a separate neonatal nursery accommodating 12 infants under the age of one month, including prematures.

The House of the Good Samaritan and
The Hospital and Convalescent Home for Children

The House of the Good Samaritan is situated at 25 Binney Street adjacent to the Medical School. There are 37 beds devoted to the care of long-term and convalescent patients and to the study of rheumatic fever and rheumatic heart disease.

In February, 1959, the renovated Good Samaritan building was reoccupied and became a long-term and convalescent care facility of The Children's Hospital. The Hospital and Convalescent Home for Children in Wellesley Hills was closed about the same time and its activities transferred to the Good Samaritan. In 1967 there was a complete merger of the House of the Good Samaritan with the Children's. The House of the Good Samaritan unit continues to provide 37 beds including 15 beds for respirator cases or patients requiring long-term orthopedic care. The study

and treatment of rheumatic diseases continues. Out-patient clinics are held regularly as a part of this research program. The building also houses the endocrine laboratories of The Children's Hospital.

Parents and Children's Services of The Children's Mission

A social service agency providing counseling service to parents whose children have medical and emotional problems. Also available is a foster home and a group home program for children who cannot remain at home.

The Children's Cancer Research Foundation

An affiliate of The Children's Hospital Medical Center, the Foundation conducts programs of diagnosis, treatment, and clinical investigation of leukemia and other forms of cancer in children, and of cancer research housed in two buildings, the larger of which is the Jimmy Fund Building. Ten floors of laboratories are devoted to both basic medical research and to more specific programs of cancer research concerned with prevention, eradication, and cure of disseminated cancer, with greatest emphasis on cancer chemotherapy.

The Judge Baker Guidance Center

A child psychiatry clinic whose treatment, training, and research programs are affiliated with those of the Department of Psychiatry of The Children's Hospital Medical Center. The in-patient service has 26 beds. This unit has constructed a building in close proximity to The Children's Hospital, expanding and integrating the program in psychiatry.

McLean Hospital

A hospital for patients with all types of psychiatric disorders, situated in Belmont and a division of the Massachusetts General Hospital. In addition to the inpatient service it offers day care, night care, and outpatient treatment programs. One third of the

patients are adolescents and the hospital operates a high school on its grounds. McLean Hospital was the first mental hospital in New England and is the third oldest mental hospital in the United States. It has a complement of 256 beds, with approved capacity of 278 beds, and is a teaching hospital connected with the Harvard Medical School. During the past fiscal year 305 patients were admitted to the hospital and 300 patients were discharged. It maintains laboratories for research in social psychiatry, social psychology, clinical psychology, clinical physiology, neurophysiology, neurochemistry, and neuropathology.

Massachusetts Eye and Ear Infirmary

The Infirmary, incorporated in 1827, and associated with the Harvard Medical School since 1866, is a voluntary specialty hospital engaged in patient care, research and teaching in the fields of Ophthalmology and Otolaryngology. The Chiefs of the two clinical services are appointed jointly by the Infirmary and the Medical School, where they hold full professorships.

Many members of the Medical Staff also serve on the Faculty and give instruction to the medical students both at the School and at the Infirmary itself where most of the 180 beds are available for teaching. There is a high occupancy of about eighty seven per cent and a short average patient stay of approximately five and one half days. In the fiscal year 1968, 10,885 operations were performed on 11,038 patients admitted to the hospital.

Although the Infirmary and its neighbor, the Massachusetts General Hospital, are separate and independent institutions, they join together in the operation of ambulatory clinics. In 1968, the Eye and Ear, Nose and Throat clinics together recorded 75,657 patient visits.

Eye research at the Infirmary is conducted in the Howe Laboratory of Ophthalmology which, though a department of the Medical School, has been housed at the Infirmary since 1932. In otolaryngological research, the best known laboratory is the Eaton-Peabody Laboratory of Auditory Physiology, a joint ven-

ture of the Infirmary and Massachusetts Institute of Technology in which the Harvard Medical School has recently become a participant.

Massachusetts General Hospital

This general hospital, founded in 1811, in great part owes its existence to the foresight and ambition of two members of the faculty of the Harvard Medical School, Dr. James Jackson and Dr. John Collins Warren, son of Dr. John Warren, the first Professor of Anatomy and Surgery at the Medical School.

In a circular letter addressed (August, 1810) "to the most influential and wealthy citizens of Boston," Drs. Warren and Jackson noted the benefits that would accrue to the ill of the community through establishment of a hospital, and to the collateral advantages that would follow. Among the latter, "are the facilities for acquiring knowledge which it (the hospital) would give to the students in the medical school (Harvard) established in this town."

The Hospital opened its doors in 1821 with Dr. Warren as Surgeon-in-Chief and Dr. Jackson as Physician-in-Chief. The close and salutary relationship established at the outset between the Medical School and the Hospital has continued to the present.

In the Hospital there are services in medicine, surgery, pediatrics, dermatology, genito-urinary diseases, orthopedics, gynecology, neurology, neurosurgery, anaesthesia, dental medicine, physical medicine, and psychiatry, all of which are used in giving instruction in these special departments of medicine. The Hospital has 1,060 beds, all of which are available for teaching purposes. Over 30,000 patients were admitted to the Hospital in 1966–1967. Large clinics are also used for instruction in the above clinical subjects. Clinic visits numbered 226,206 last year, of which 14,504 were first visits of new patients. There were 62,541 patients treated in the emergency ward. Laboratories for pathology, bacteriology, chemistry, metabolism, medical and surgical research, and radiology are maintained, and there is an excellent medical library, all of which are open to students in the Medical School.

In 1942 arrangements were made with the Vincent Memorial Hospital and the Hall Mercer Hospital to care for their patients in the Massachusetts General Hospital. The Vincent occupies the three lower floors of the Vincent-Burnham Building, with the three floors above comprising the Burnham Memorial for Children.

In 1943 the Collis P. Huntington Memorial Hospital and its associated laboratories of the Harvard Cancer Commission were transferred from their former location adjacent to the Medical School to the buildings of the Massachusetts General Hospital.

Massachusetts Mental Health Center
(formerly the Boston Psychopathic Hospital)

This is a state institution for acute, curable, incipient, and doubtful cases of mental disease. The Massachusetts Mental Health Center also serves as the comprehensive mental health center for a population area of 220,000 persons in Greater Boston. The hospital was opened to patients in June, 1912 as a department of the Boston State Hospital. It became a separate institution in 1920. It has 200 beds, of which 14 are available for children. All of the beds are available for teaching and receive patients at the rate of about 900 a year. The hospital is equipped with psychological, clinical, biochemical, and research laboratories. The out-patient department is made up of an adult and child division and receives more than 4,000 new patients per year — total patient visits number more than 45,000. In addition to the psychoses and neuroses, the clinical material includes cases of maladjustment, personality problems, behavior disorders of childhood and mental defect.

New England Deaconess Hospital

This is a 360 bed specialty hospital located one block from the Harvard Medical School. The physical plant includes the Palmer Memorial, George F. Baker, Central, and Deaconess Buildings as

well as the ambulatory Joslin diabetic unit, the Norwich House for short-term psychiatric therapy, the Cancer Research Institute, the medical office building for independent staff, and the Shields Warren Radiation Laboratory. The latter unit, constructed by the Deaconess Hospital, is operated jointly by the Deaconess, Beth Israel, Peter Bent Brigham, and Children's Hospitals to provide facilities for research in experimental radiation. The Departments of Pathology and Radiology provide diagnostic and treatment facilities for all patients within the above named units as well as patients referred from the Joslin, Lahey, and Overholt Thoracic Clinics. The hospital is known for therapy in Cancer, Diabetes, Hematology, General Medicine, and all types of Surgery. It has an active postgraduate teaching program including four year specialization in Medicine, Surgery and Pathology and two years in Anesthesiology, Radiology, and Thoracic Surgery. Surgical Residents are associated with the Fifth Surgical Service (Harvard Division) of Boston City Hospital. Undergraduate teaching primarily involves fourth year elective courses but also includes a number of third year students who rotate to the hospital for a part of their "Introduction to the Clinic." Active research programs within the hospital are carried out under the direction of the Cancer Research Institute, the Diabetes Foundation, the Lahey Clinic Foundation, and the Blood Research Institute.

Peter Bent Brigham Hospital

Since its dedication in 1913, the hospital has been closely associated with the Medical School. The hospital, equipped for teaching and research in physical diagnosis, medicine, surgery, radiology, and pathology is situated on grounds adjacent to the Medical School buildings. The Chiefs of Service are Professors of the Faculty of the Medical School. There are 321 beds, all of which are used for teaching purposes. During the past year, 8,392 patients were admitted. There are also a clinic and an emergency service. The total number of visits to these facilities last year

was 73,632. There are well-equipped medical, surgical, and pathological laboratories. The hospital has a School of Nursing and the oldest program in the country for dietetic interns.

Veterans Administration Hospital (West Roxbury)

This is a 300 bed hospital for the care of general medical and surgical patients, incorporating a center for the care of patients with spinal cord injuries. It is also a center for cardiovascular surgery. All the beds are available for teaching; there were 2,577 admissions during 1967.

The hospital is administered by the Veterans Administration but is professionally closely associated with the Peter Bent Brigham Hospital (8 miles distant), with which it is affiliated for the training of residents. It has complete laboratory and X-ray facilities, a research laboratory, and its own library.

Other hospitals in the Greater Boston area in which some teaching activities are carried on include: Cambridge Hospital; Lemuel Shattuck Hospital; Metropolitan State Hospital; Middlesex County Sanatorium; Mt. Auburn Hospital; and the Robert B. Brigham Hospital.

HARVARD MEDICAL CENTER

A corporation known as the Harvard Medical Center was formed in 1956 by the Harvard Medical School and seven of its teaching hospitals ". . . to improve and advance the knowledge, practice and teaching of medicine . . . ; to assist in the advancement of medical research and investigation and the improvement of medical teaching facilities. . ."

The Center's Board of Trustees is made up of the Dean of the Faculty of Medicine, who serves as President, and a representative from each of the participating institutions, which are:

Harvard Medical School
Beth Israel Hospital

Boston Hospital for Women
  Lying-in Division
  Parkway Division
Children's Hospital
Massachusetts Eye and Ear Infirmary
Massachusetts General Hospital — McLean Hospital
Peter Bent Brigham Hospital

Harvard is exceedingly fortunate in having both privately endowed and tax-supported teaching hospitals associated with the Medical School through joint faculty appointments, joint teaching responsibilities and joint research undertakings to foster maximally the correlation of teaching, research and patient care.

Tax-supported hospitals cannot legally be part of the Harvard Medical Center and it is for this reason that such important teaching hospitals as the Boston City Hospital, the Massachusetts Mental Health Center (formerly the Boston Psychopathic Hospital), and the West Roxbury Veterans Administration Hospital are not member institutions.

REQUIREMENTS FOR ADMISSION

In general, the Faculty of Medicine considers for admission those students who are in good standing in either arts or sciences and also graduates of colleges that are listed as approved in the "Higher Education Directory," which is published by the Office of Education of the United States Department of Health, Education and Welfare. Academic work in foreign universities must be supplemented by two years of study at an approved university in the United States. Candidates for admission to the first year class must not only have met the minimum requirements but they must present evidence that their academic achievement and other credentials have been of such quality as to predict a high degree of success in the graduate study of medicine. These include, among other things, the Medical College Admission Test scores, extracurricular and summer activities, comments contained in letters of

recommendation and the personal qualifications of the applicant. The selection of students is based on a total and comparative appraisal of the candidate's suitability for medicine. The student planning to embark upon a career in medicine would be well advised, therefore, to strive not for grades nor for a vocational training but for a good liberal education. He should seek to develop his intellectual, cultural and personal growth.

The academic record is indeed an important component of a student's application, but the student does not have to meet a specific grade point average. Instead, academic grades are evaluated in terms of the quality and difficulty of each course taken. In fact, the student is encouraged to undertake more advanced courses if qualified, since the Admission Committee takes the level of a course into account when considering a student's grades. *There are no preferred fields of concentration of study in college as long as the student demonstrates superior aptitude in the sciences.* No single college or group of colleges is given preference over other colleges. The student should choose that college which will provide the greatest intellectual stimulation and challenge for his own individual needs.

Personal qualifications, broad experiences in extracurricular activities and summer occupations, as well as evidence of integrity, good judgment, maturity, and an aptitude in working with people are evaluated. Applications are considered without regard to race, color, creed, country of origin, college of preparation, or financial need. It is the individual's own qualifications which determine his acceptance.

Tomorrow's physician must be accomplished in the science of medicine and skilled in the art of the practitioner, concerned with the social and environmental problems of people and a leader in civic and community affairs. He needs to have a broad education encompassing in some depth the natural sciences, the behavioral sciences, the arts and the humanities. Although he is expected to have a scholarly approach to one or more of these areas, narrow specialization with all of his educational effort being directed to one area is undesirable. Secondary school, college and medical

school should become a continuum because of an ever improving quality of education at all levels.

The following are the minimal requirements (but not necessarily optimal):

English: Basic skill in the English language, including proficiency in grammar and spelling, is necessary to achieve facility for clear expression in both the written and spoken medium. It is expected that the student will have at least four years of study of English composition and literature, at least one of these years being at the college level.

Foreign Language: Knowledge in depth of a foreign language, either ancient or modern, is a valuable ingredient in the development of an educated person. Experience sufficient to satisfy the language requirement for a Bachelor's degree of a liberal arts college is strongly recommended.

Mathematics: Mathematics, the language of science, is a basic tool for the successful study of medicine. At least one full year of calculus in either secondary school or college is a requirement. College algebra and similar college introductory courses will not suffice. A course in elementary statistics is very strongly recommended.

Chemistry: At least two full courses in chemistry in college are required. It is expected that there will be a minimum of one full course in both inorganic and organic chemistry. Adequate time in the laboratory, including familiarity with quantitative techniques, is important in this experience. If the student has advanced placement credit for introductory chemistry, it is recommended that a course in physical chemistry would best provide for the minimum requirement in inorganic chemistry and will be of considerable benefit to the study of biochemistry in medical school. In many states advanced placement courses may not be accepted for licensure.

Biology: A student must have taken at least one full course of biology in college. His total biology experience (secondary school and college) should have emphasized structure, function, natural history and evolution of plants and animals. There should also have been an introduction to molecular biology. Laboratory experience in these courses is essential.

Physics: One full course of physics in college must be offered. If a student has advanced placement credit for secondary school physics, he should take a full year's work in one or more areas of advanced physics.

Recommended Courses: As mentioned above, physical chemistry will provide an additional background for the study of biochemistry. Comparative anatomy, genetics and embryology may be of help during the first two years of medical school.

Psychology and behavioral sciences have value for increasing the understanding of man. Such courses, however, cannot be considered as a substitute for gaining first hand knowledge of human activity through the study of literature, history, art and religion.

The undergraduate curriculum should contain both balance and depth. In general, approximately one half of the courses should be devoted to the study of humanities and at least one fourth to science.

Depth of knowledge and scholarly experience should be gained by selecting the field of major study which is of greatest interest to the student. The goal of a liberal education is an end in itself and should not be considered merely as preparation for a graduate school.

An increasing number of students are being admitted to college with advanced placement in one or more courses on the basis of superior ability and educational attainment in secondary school. The program of advanced placement is looked upon with favor when it improves and increases the challenge of secondary school education and when it permits an enrichment of the student's college years by enabling him to take upper level and graduate level courses, but the program is not encouraged when the aim

is merely to speed the student through college. Leaving college at the end of three years is undesirable unless a student's education has been delayed, and he is older than his classmates. In the final analysis, however, it is not the number of years in college or hours in a course, but the quality of education and maturity of a student that determines his readiness for medical school. Since the requirements for admission to the Harvard Medical School now include four courses in science in college, the student who has received advanced placement credit for secondary school science is fortunate in that he will thus enrich his knowledge of the sciences by studying courses at a more advanced level and at the same time assure himself of fulfilling the licensing requirement in all of the United States.

Honors courses and independent study are encouraged both for the educational depth they provide and more so because of the scholarly experience which will develop into a lifelong habit of self education.

No attempt should be made to anticipate the work actually given in medical school — to do so is a double mistake: it eliminates the chance to explore a field that will be unavailable later, and it may give the student a false sense of security in a subject with which he has some familiarity leading him to neglect it in medical school under the competitive pressure of other courses.

The Medical College Admission Test of the Association of American Medical Colleges is required of all applicants for admission and is given in May and October of each year. Applicants are urged, whenever possible, to take this test in May of the year preceding the expected date of matriculation. An application will not be considered from an applicant who has not taken the Medical College Admission Test by October of the year in which he applies.

Information regarding this test, administered by the Psychological Corporation, may be obtained by writing to Medical College Admission Test, the Psychological Corporation, 304 E. 45th Street, New York, New York 10017.

Interview: When the Committee on Admission deems an interview to be helpful, the applicant will be requested to make an appointment with either a member of the Committee in Boston or, if at a distance, with a regional representative. Any applicant is welcome to seek an interview for information or for clarification of the data in his application.

Application Procedure: One class only is admitted each year, to begin in mid-September. Application blanks are ready for distribution after June 1 of the year preceding expected matriculation. These should be returned to the office of the Committee on Admission, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115, as early in the fall as possible. *No application will be accepted after November* 1. If a student has not received acknowledgment of receipt of his application within two weeks after he has filed it, he should notify the office of the Committee on Admission.

The Admission Committee begins its consideration of applications shortly after the first of October. Since acceptance depends upon a comparison of the total picture of each applicant with all others, notification of acceptance will be sent only on the first Friday after November 15, January 10, and February 21. The majority of the places in the class are offered on the last date. The class roster is usually complete by March 1, when a waiting list is established to fill any vacancies which arise as a result of withdrawals. During the process of studying applications, when it appears that an applicant has little likelihood of being accepted, he will be informed of this fact so that he can make other plans for his medical education.

Applications will not be considered from candidates who have been refused admission on two prior occasions.

Since a complete catalogue is available in most college libraries, it is not usually sent to individuals. The staff of the Admission Office encourages visits from potential applicants.

Admission to the Second and Third Year Classes at the Harvard Medical School

The extensive clinical facilities for teaching in the third and fourth year make it possible to add a limited number of students to the class at the beginning of the third year. Only students of high scholastic standing will be considered for transfer. Preference will be given to applicants for transfer from two year medical schools. Persons from other four year medical schools wishing to apply for transfer in the second or third-year class must submit a formal statement of their reasons for wishing to transfer to the Committee on Admission in advance of requesting an application form. The Committee will review the reasons and notify the person whether or not he may submit a formal application. If the Committee allows the submission of a formal transfer application, the candidate must request a letter from the Dean of the medical school presently attended, endorsing heartily the proposed transfer. In this event, it is requested that the Dean's Office submit both a transcript of academic performance in the medical school, and a certificate indicating that the time spent in medical studies is at least equal to that of the class to which a student seeks admission. Full credit for work done elsewhere will be allowed as a rule.

Only an occasional vacancy occurs in the second year class, which may be available to properly qualified transferring students. *Completed applications must be submitted by February 1* of the year of transfer. Decisions about transfers into the third year class are made during March. Decisions about transfers into the second year class are not usually determined until the end of the academic year.

No applications for transfer into the fourth year class are accepted.

Information for Servicemen

The Harvard Medical School welcomes inquiries regarding future application from men who are now on active duty with the armed forces. The Committee on Admission cannot act on

applications from men still on active duty and not released from service. The applications of men on terminal leave or whose date of discharge is definitely known may be considered by the Committee. Before the acceptance of a veteran can be final, the applicant will need to submit photostatic copies of discharge papers or similar evidence of honorable release. Where available the applicant should file also a copy of his "Report of Separation" on which is listed in detail his service record and training. If the Committee does not act favorably on an application, certifications furnished by the applicant may be returned, at his request. It is the responsibility of the applicant to take the necessary steps toward obtaining the governmental benefits for which servicemen are eligible. On request, the section on Veterans Affairs of the Comptroller's Office at Harvard will furnish a statement of the necessary procedures to receive such benefits required by the Veterans Administration. The University has established this office to form a central point for answering inquiries and advising veterans. For matters relating to veterans' affairs and not connected directly with the Medical School, the applicant should feel free to write to the Comptroller's Office, Veterans Affairs, Holyoke Center, 1350 Massachusetts Ave., Cambridge, Massachusetts 02138.

Applications from Foreign Students

A candidate from a foreign university may file application for admission, but if he has attended a university or medical school which has not received approval by the Approving Authority of the Commonwealth of Massachusetts, specific approval from the Authority must be gained before he can be admitted. In order to be eligible to file an application, the candidate must have supplemented, or be in the process of supplementing, his university education with two years of study at an approved college or university in the United States. This policy has been established in order both that the applicant may become familiar with the language, customs, and methods of teaching in the United

States, and that the Committee may obtain a better evaluation of his qualifications and preparation for medicine.

Students seeking transfer to the second year class from foreign medical schools may be required to take the examinations in the first year subjects at the regular time they are given at the Harvard Medical School in January and June. Students applying for transfer to the third year at the Harvard Medical School will be required to take Part I of the examinations given by the National Board of Medical Examiners and to achieve scores satisfactory to the Committee on Admission.

Foreign Students

All students who are not citizens of the United States will be referred before registration to the Harvard International Office, Holyoke Center, 75 Mt. Auburn St., Cambridge 02138, where they must present a statement of admission, show their passports, and fill out a Student Registration form. They will then receive a card for presentation at registration, showing they have been cleared by the International Office.

This office serves as the official liaison agency between the University and the United States Department of State and Immigration and Naturalization Service. It maintains a registry of all non-U.S. citizens in the various Schools or Departments of the University, and it furnishes these members of the University community with information, not only on Immigration regulations, but on the facilities available to them through other Harvard offices, and from recognized outside organizations interested in the welfare, housing and hospitality of those unfamiliar with this country.

Special Students

Individuals wishing to take courses or to engage in special study under the Faculty of Medicine, who are not candidates for the degree of Doctor of Medicine or regularly enrolled as

students under another Faculty of the University, may apply for admission as Special Students. Candidates should be mature individuals with serious and compelling reasons for wishing to pursue special programs of study at the Harvard Medical School. Application for admission to the status of Special Student should be submitted to the Chairman of the Committee on Admission of the Faculty of Medicine. Each of these students will be under the charge of the Dean and a member of the Faculty designated by the Dean to serve as his special advisor. Admission to Special Student status is ordinarily for a maximum of one year. Only with the approval of the student's advisor, the departments concerned, and the Dean may this period be extended. Persons wishing to audit or to take for credit any course in the Medical School must register by filing an application as a special student. Forms are available in the office of the Committee on Admission.

Tuition Fee: Varies according to the courses taken and is based on a proportion of the annual fee for instruction.

Special Students at the Medical School wishing to take courses under the Faculty of Arts and Sciences must register with the Dean of Special Students, Holyoke Center, 75 Mt. Auburn St., Cambridge, Massachusetts 02138.

DEPARTMENT OF CONTINUING EDUCATION
(formerly Courses for Graduates)

This Department of the Medical School offers qualified physicians courses of varying length in the subspecialties of medicine. Facilities for graduate instruction are available at the Harvard Medical School and at the affiliated teaching hospitals. In 1968 the Department's activities were significantly expanded by beginning programs of continuing education in community hospitals. Information concerning courses can be found in the catalogue of the Department of Continuing Education, and inquiries should be addressed to Daniel D. Federman, M.D., Assistant Dean.

DIVISION OF MEDICAL SCIENCES

The Division of Medical Sciences was established in the Faculty of Arts and Sciences of Harvard University in 1908. It provides facilities for advanced study and investigation leading to the degree of Master of Arts and Doctor of Philosophy in the basic medical sciences — Anatomy, Bacteriology, Biological Chemistry, Neurobiology, Pathology, Pharmacology and Physiology. The Division enjoys the facilities of the departments and research laboratories of the Harvard Medical School, its affiliated hospitals, and other related parts of the University. As part of the Faculty of Arts and Sciences of Harvard University, the Division also has close relations with the Departments of Biology, Chemistry, and Physics in Harvard College. Members of these departments are active in the education of the Division's graduate students. The aim of the Division is to provide a broad education in the biological fields mentioned and specialization in one of them for those who wish to pursue a career of research and teaching in medical schools and universities, or of research in government, foundation and industrial laboratories.

Candidates for admission should have a thorough grounding in the biological and physical sciences. Advanced courses in biology, chemistry, and physics are ordinarily regarded as preferable to those subjects which constitute the major fields of study within the Division (e.g. bacteriology, biochemistry, etc.). A reading knowledge of German and one other modern language is desirable but not required for admission. The candidate will be required, however, to pass an examination in German and one other foreign language before graduation.

Those who already hold the M.D. degree may become candidates for the Ph.D. degree in the Division, providing their qualifications for admission are approved, and providing they are prepared to fulfill such formal course requirements as may be laid down by the Division. Such persons are, however, encour-

aged to consider obtaining their additional education as postdoctoral fellows rather than Ph.D. candidates.

The general requirement for the degree of Doctor of Philosophy consists of not less than two years — at least one of which must be in residence at the Harvard Graduate School of Arts and Sciences — devoted to advanced studies approved as suitable preparation for the degree by the proper department. Ordinarily three or more years are required for the completion of formal courses and preparation of a thesis. In estimating the amount of a candidate's study for the degree, the advanced work done in other graduate departments at Harvard or of other universities will be considered. Medical students who have successfully completed their first or second year may apply for admission to this Ph.D. program and receive credit for some of the course work completed as a medical student.

It is expected that the preparation of a thesis will require full time for usually not less than one and a half years. It must show original treatment of a fitting subject, give evidence of independent research, and be clearly, logically, and carefully written in good English. Following acceptance of his thesis, the candidate is given an oral Final Examination on the subject of his thesis and its relation to his special field and collateral subjects.

Candidates for the Doctor of Philosophy and Master of Arts degrees are registered in the Graduate School of Arts and Sciences for study in the Division of Medical Sciences. Students interested in graduate study in the Division should see the *General Announcement of the Graduate School of Arts and Sciences* and the pamphlet entitled *Higher Degrees in Medical Sciences.* These can be obtained from the Admission Office, Graduate School of Arts and Sciences, 75 Mt. Auburn Street, Cambridge, Massachusetts 02138.

Inquiries should be addressed to the Chairman of the Division of Medical Sciences, 25 Shattuck Street, Boston, Massachusetts 02115.

SCHOOL OF PUBLIC HEALTH

The School of Public Health is one of the graduate schools of the University. Instruction and research opportunities are available in the several fields which underlie the protection of health and the investigation and control of diseases in communities. These include the basic public health sciences, biostatistics, epidemiology, health services administration, and environmental health. Other significant aspects of public health are represented by departments of demography and human ecology, microbiology, nutrition, tropical health, maternal and child health, behavioral sciences, and a newly created Division of International Health.

Students enrolled in the Medical School may take courses at the School of Public Health with the approval of the Head of the Department concerned. Further information and a catalogue may be obtained from the Registrar at 55 Shattuck Street, Boston, Massachusetts 02115.

GENERAL REGULATIONS

In order that the time of study shall count as a full year, students of all upper classes must register on the first day of the session. A fee of $10 is charged for late registration.

For special and approved purposes fourth year students may be allowed to take a portion of their work elsewhere than at the Harvard Medical School, provided the application be approved by the Dean in consultation with the Administrative Board and the head of the department concerned, and provided the student passes an examination on this work after its completion, conducted by a member of the Faculty of the Harvard Medical School.

Examinations and Promotion

Promotion from one class to another is contingent upon the

satisfactory completion of the required work of each year. In each course, when indicated, students will be informed by their instructors as early as possible when the progress of their work is unsatisfactory.

Final grades in each course will be based upon such examinations or other tests as are determined by each department. Grading is on the scale of A, B, C, D, and E (denoting failure). In the new curriculum which went into effect in September 1968 for the Class of 1972, a grade of "satisfactory" or "unsatisfactory" will be recorded for each student's performance during the required course work in Cell Biology, Human Biology I, II, and III.

Grades are averaged on the basis that A = 1, B = 2, C = 3, D = 4 and E = 6. In calculating this average, time devoted to a course is taken into account.

Promotion Boards

Promotion Boards have been appointed for the first, second and third years to review the work of each student at the end of the year or, at their option, at other times. The membership of these boards consists of one representative from each department whose grading, as noted above, affects the student's grade average and one member from the Committee on Examinations and not as voting members, the Dean or Assistant Dean, *ex-officiis*.

It is the duty of the Promotion Boards to promote those qualified, to notify formally students whose work in any course is unsatisfactory — in certain cases requiring that such students repeat the year's work — and to recommend that unpromising students withdraw from the School.

Opportunity will be given to students to appeal the decision of a Promotion Board either at a special meeting or at the next regular meeting of the Board. Appeals must be sent to the Chairman of the Promotion Board, Harvard Medical School and, to be valid, be received by him within two weeks after the issuance of a Promotion Board's notice of formal action.

General Examination

A committee will give a General Examination to each candidate

for the degree of M.D. It will recommend to the Faculty those who pass and are otherwise qualified for the degree and for honors. The conditions under which a student shall take a General Examination and the character and content of the examination will be determined by the Committee subject only to rules of the Faculty.

A student becomes eligible to take a General Examination on successfully completing seven-eighths of his fourth year work. He may not anticipate the General Examination ahead of his class.

A student who fails three General Examinations is debarred from further attempts.

Rules Governing Promotion

1. A student with a grade averaging, for one year, from D(4) to E (6) will ordinarily be required to withdraw from the School.

2. A student whose grade for one year averages from 3.5 to 4 will be warned that his work is unsatisfactory. At the Promotion Board's discretion such a student may be required to repeat the year's work, or to withdraw from the School.

3. A student who is set back a year must repeat at least two assigned subjects and then he will not be promoted unless he obtains a grade of C or better in both of these subjects.

4. A student who is warned by a Promotion Board that his work is unsatisfactory and yet is permitted to advance with his class must attain for the ensuing year a grade average which is significantly better than in his previous year, failing which he must repeat the year's work, or, at the Board's discretion, he may be required to withdraw from the School.

5. A student failing in any course and yet permitted to advance with his class may not be promoted a second time nor will he be allowed to take the General Examination until that failure is removed.

6. A student failing any course will have an opportunity for re-examination only at a time set by the Promotion Board or with a succeeding class or section.

Non-Resident Student Status

Students pursuing a course of study related to medicine at another institution may be carried on the rolls of the School as regular students. Application for registration in this category should be made at the Office of the Dean and may be granted at his discretion. A fee of $25 will be charged.

Leave of Absence

The Faculty of Medicine believe that certain students may profitably be granted a leave-of-absence from the School for specified periods of time in order to pursue at other institutions studies and research activities related to medicine. A leave-of-absence for this purpose should be requested from the Dean's Office. It will be granted at the discretion of the Dean.

Withdrawal from the School

A student may withdraw from the School voluntarily upon application to the Dean's Office.

A student may be required to withdraw from the School at any time if in the opinion of his instructors he is not competent to pursue his assigned course of study or if the Faculty of Medicine determine that he is for any reason unfit to continue as a student in the School. In addition, any student who is absent without leave from scheduled courses for more than a total of 30 days during the academic year will be required to withdraw from the School.

Application for reinstatement by any student who has withdrawn voluntarily or who has been required to withdraw from the School, must be received in writing by the Committee on Admission of Students at least four months prior to the requested date of readmission. Reinstatement will be made only upon the recommendation of the Committee on Admission.

DEGREES

Doctor of Medicine

Every candidate for the degree of Doctor of Medicine at this University must be at least twenty-one years of age, and of good moral character. He must have fulfilled all the requirements for admission to this Medical School; give evidence of having studied in a recognized medical school at least four full years, of which one year must be spent in the regular fourth year course of this School; have passed all the required examinations; have dissected the three parts of the body to the satisfaction of the demonstrator; and furnish evidence of having engaged in the practical exercises in Medicine, Surgery and Obstetrics.

The degree of Doctor of Medicine *cum laude*, *magna cum laude*, or *summa cum laude* may be given to students of highest rating in the class, on recommendation of the Committee on Examinations and the Faculty.

The degree of Doctor of Medicine *cum laude*, *magna cum laude*, or *summa cum laude* for a thesis in a special field may be awarded to candidates for the degree of Doctor of Medicine on recommendation of the Committee on Examinations and the Faculty. The work for this may have been carried out under the Tutorial System or by independent arrangement with any member of the Staff.

The degree is awarded for original and meritorious investigation in a single subject or group of subjects and for evidence of ability, scholarship and persistent interest and industry. Candidates wishing to be considered for such honors in a special field must apply to the Dean's Office not later than March 1 of the year of graduation and must submit two typewritten copies of an original thesis prepared in form usual for publication. The written approval of the head of the department in which the work was completed must be attached.

The thesis should include an introduction with references to relevant literature; a brief statement of the purpose of the study;

a description of the materials and methods employed; an account of the original observations included; a discussion of the results; a summary; and a list of the references used.

No candidate is eligible to graduate with honors for a thesis in a special field unless he has done creditable work in his regular curricular studies and has passed the General Examinations. In addition, any candidate whose qualifications are acceptable for honors in a special field must pass an oral examination before the Subcommittee on Honors in a Special Field and invited special examiners in which he will be examined not only on the subject of his thesis but on the general field of which it is a part.

Every candidate for the degree of M.D. must make application for it in writing on blanks furnished at the Dean's Office, on or before April 1.

Doctor of Dental Medicine

Every candidate for the degree of Doctor of Dental Medicine at Harvard University must be at least twenty-one years of age and of good moral character. He must have fulfilled all the requirements for admission to this school; give evidence of having studied at least two full years in basic health sciences comparable to those offered in the first two years of this school and two years in a recognized dental school, of which one year must be spent in the regular fourth year course of the Harvard School of Dental Medicine. He must have passed all the required examinations and have satisfactorily completed the minimum requirements for work in the various laboratories and clinics.

The degree of Doctor of Dental Medicine *cum laude* or *magna cum laude* may be given to students of highest general rating in the class, on recommendation of the Committee on Examinations. The degree is also awarded, where appropriate, with honors for a thesis in a special field.

Application for the D.M.D. degree, on a form provided by the Dean's Office, must be filed at that office prior to April 1 in order for the student's name to be placed on the list of degree candidates at Commencement.

Doctor of Medical Sciences

Candidates for this degree must matriculate as medical students and complete with an honor grade the regular elementary courses offered by this School, together with such other subjects as may be recommended by the Faculty. Ordinarily this preparatory training will be equivalent to the first two years of the course of study leading to the degree of M.D. In addition, all candidates are required to have a reading knowledge of French and German. In estimating the amount of a candidate's study for the degree, study completed in other approved medical schools will be considered.

Following the completion of this preliminary training, the student shall devote himself for not less than two years to the intensive study of one of the fundamental medical sciences and to the preparation of a thesis. The thesis must show an original treatment of a fitting subject and give evidence of independent research.

There shall be two examinations for every candidate for this degree: a general examination, before entering upon the work of the last two years, covering the elementary medical sciences; and a final examination, upon acceptance of the thesis, covering the particular medical science chosen as a special field.

Higher Degrees in the Medical Sciences

The degrees Doctor of Philosophy and Master of Arts are offered for advanced work in some special field in the medical sciences and are administered by the Faculty of Arts and Sciences, through the Division of Medical Sciences, which consists of faculty members of the preclinical departments of the Medical School. All candidates for these degrees are registered in the Graduate School of Arts and Sciences for study in the Division of Medical Sciences and must hold a degree in Arts or in Sciences from an approved college.

(See section on Division of Medical Sciences on page 40.)

FEES AND EXPENSES

An estimate of total yearly expenses shows that the average cost of the school year is approximately $3,900 for each academic year. This estimate includes tuition, medical health fee, board and room, books, laundry, and incidentals.

The fees are:

Matriculation	$5	
Medical Health Fee	$95	each year
Instruction	$2,500 *	each year

* Includes laboratory charges except microscope rental, breakage, damage, loss of apparatus, etc.

Term bills for the year 1968–69 are issued and payable as follows:

Issued	*Payable*	*Basic Charges*
At Registration	Presentation	¼ Tuition for the year ½ Medical Health Fee
Nov. 20	Dec. 10	¼ Tuition for the year Board through Oct. 31 ¼ Room Rent for the year Coupon Books through Oct. 31 Miscellaneous Charges
Jan. 20	Feb. 10	¼ Tuition for the year ½ Medical Health Fee Board through Dec. 31 ¼ Room Rent for the year Coupon Books through Dec. 31 Miscellaneous Charges
Apr. 20	May 10	¼ Tuition for the year Board through March 31 ¼ Room Rent for the year Coupon Books through March 31 Miscellaneous Charges

June 5 *	June 15	Board to the end of year ¼ Room Rent for the year Coupon Books to the end of the year Miscellaneous Charges
June 30	July 15	Board to the end of year ¼ Room Rent for the year Coupon Books to the end of the year Miscellaneous Charges

* Applies only to candidates for degrees.

The term bills are sent to the student at his college address unless the Comptroller is requested in writing to send them elsewhere.

Any student whose indebtedness to the University remains unpaid on the date fixed for payment is deprived of the privileges of the University. Reinstatement is obtained only by consent of the Dean of the School in which the student is enrolled, after payment of all indebtedness and a reinstatement fee of $10. In addition as a condition of reinstatement such student is required to file with the Comptroller a bond in the amount of $1,000 as security for the payment of future term bills.

Students who are candidates for degrees must pay all dues to the University at least one day before the day upon which the degrees are to be voted.

A student who leaves the University for any reason must pay all charges against him immediately upon receipt of a bill from the Comptroller.

Students will be held responsible for the payment of fees until they have notified the Dean in writing of their intention to withdraw from the School.

Microscopes

The School requires that each student secure a standard student microscope, preferably less than twenty years old, with a minimum of two oculars and three objectives including an oil immer-

sion lens. A mechanical stage is not essential. The minimum requirements are as follows:

2 oculars 5X and 10X
1 oil immersion objective
1 16mm. objective
1 4mm. objective
1 complete substage —Abbe condenser and Iris diaphragm

In addition, the following are recommended by the Department of Pathology:

1 scanning objective 2–3X 1 quadruple nosepiece

The Medical School has a limited number of binocular microscopes available for rental each year to first and second year students unable to provide their own. The rental charge is $55 a year.

Dormitory

Vanderbilt Hall, the Medical School dormitory, has accommodations for 305 male and 20 female students. The majority of the rooms are designed for one occupant. Many of the rooms communicate directly with the adjacent room, and there are also a number of suites for two or more persons. The price of rooms ranges from $300 to $575 per person for the academic year. Application forms for rooms in Vanderbilt Hall will be sent to all new students approximately four months before registration day. The date on which they must be returned in order to be included in the drawing will be announced at that time. Students are permitted to reengage their rooms for the following year by signing lease cards at the Student Affairs Office. The dormitory has squash courts, a tennis court, and a gymnasium which are open to members of the teaching staff and students of the Medical School. There is a parking lot for a limited number of automobiles behind the dormitory. The School assumes no responsibility for loss or damage to automobiles or other property left in the lot. First year students are urged not to bring cars.

Dining Hall

The dormitory contains a large dining hall which is available for all members of the medical area. First year students living in Vanderbilt Hall will be required to pay full board, $682, for the academic year (September 16, 1968 through June 6, 1969) for 21 meals a week. Second year students living in Vanderbilt Hall will be required to pay full board, $700, for the academic year (September 9, 1968 through June 6, 1969) but in the second term compulsory meal contracts may be amended to provide for absence from lunch during the three clinic days of each week. A proportionate decrease in the full board rate will be made for the period involved. Students desiring the amended contract should apply to the Dining Hall checker. Graduate students and others living in the Hall will also be required to sign on for the 21 meals a week for their first two years of residence.

Student Health Service

The Medical Area Health Service, providing medical care for the students, is open Monday to Friday from 8:30 a.m. to 5:00 p.m. Saturday from 9:00 a.m. to 12:00 noon. On Saturday afternoons, Sundays, nights, and holidays one of the staff physicians of the Health Service is available by telephone. A complete medical examination of each new student is required at the beginning of the school year. This is conducted by appointment shortly after school opens.

Upon registration, each student receives a booklet which describes the medical services available from the Medical Area Health Service. Hospital insurance is available through the plan for wives and children of married students.

Successful small pox vaccination within three years prior to entrance to Harvard Medical School is required. A completed certification of vaccination must be submitted before registration.

Any illness necessitating absence from classes must be reported to the Health Service.

Student Employment

Only a limited amount of outside work can be done without taxing a student's health and scholarship, and the student is urged, when it is possible, to devote himself to a regular program of study and recreation, giving as little time to outside work as is feasible with his plan for financing his medical education. A limited number of positions offering room and board in return for laboratory or minor clinical services in hospitals are available to second, third, and fourth year students. Few opportunities are open to first year students.

SCHOLARSHIPS

Harvard Medical School National Scholarships

In order to make it possible for young men of outstanding ability and promise to come to the Harvard Medical School, two or three Harvard Medical School National Scholarships will be offered to incoming members of the first year class. These scholarships will carry a stipend sufficiently large, if necessary, to meet all the student's essential expenses. Successful applicants who maintain a high honor record at the Medical School will continue to hold these scholarships throughout the Medical School course.

The offer of these scholarships is made possible by gifts from Mr. Edward S. Harkness, Dr. Daniel F. Jones, and Dr. Franklin S. Newell. The donors expressed the hope that through these scholarships superior men who could otherwise not receive a medical education would be enabled to attend the Harvard Medical School. They also expressed the hope that some of these men might wish to return to their own communities to carry on the practice of medicine.

Direct application for these scholarships cannot be made since all accepted first year students are considered as candidates, the awards being made without reference to financial circumstances. The stipend will vary depending on the resources of the recipient.

General Scholarships

The following scholarships are open to students who have been admitted to the School at the time of application. Approximately $193,000 is available annually from the general scholarship funds.

The Cheever, Gerry, Greene, and Haven Scholarships are awarded only to students of the first year class. The Hayden and Webster Scholarships may be so awarded. All the other scholarships are available to members of all classes.

Information concerning all forms of financial assistance may be obtained from the Office of the Committee on Admission.

Edwin H. Abbot (1967). To provide scholarships for students in the Medical School.

Vivian B. Allen (1954). To provide scholarship aid for men who are unable to pay their own way for medical training.

Anonymous No. 60 (1960). To provide scholarships for students in the Medical School.

Edward Dana Barbour Fund (1928). For promoting medical education in China, preference to students coming from Shanghai or its environs.

Edward M. Barringer Fund (1881). Edward M. Barringer. For the maintenance of two scholarships for students in the Harvard Medical School. Awarded to deserving students, preference being given to those of the fourth year class.

Edward M. Barringer No. 1

Edward M. Barringer No. 2

Gordon Bartlett (1919). Mr. and Mrs. Donald Gordon, in memory of their nephew, Gordon Bartlett, a student at Dartmouth College who died of wounds at St. Mihiel while serving in the Seventeenth Field Artillery. Preference is given to graduates of Dartmouth College. This scholarship will ordinarily be divided between two men.

Matthew and Mary E. Bartlett (1916). Miss Fannie Bartlett. in memory of Matthew and Mary E. Bartlett. For the benefit of a worthy and meritorious student who is in need of financial assistance.

Walter Bauer (1965). The Helen Hay Whitney Foundation. Scholarships or other beneficiary aid for any qualified student engaged in studies under the supervision of the Faculty of Medicine.

George Packer Berry (1965). Harvard Medical Alumni Association.

Lucius F. Billings (1900). Lucius F. Billings. May be divided between two or more students.

Dr. Robert Bonney Fund (1944). Robert Bonney, M.D. 1898. For the aid of needy and meritorious students.

John White Browne (1918). Mrs. Francis B. Greene. Scholarships for students in the Harvard Medical School.

Irving Lyman Cabot (1958). Estate of Ida L. Cabot.

James Jackson Cabot (1906). Arthur T. Cabot, Samuel Cabot and Guy C. Cabot. For the support of scholarships for students in the Medical School.

Henry Fassett Castle (1941). William E. Castle, A.B. 1893, A.M. 1894, Ph.D. 1895, as a memorial to his son, Henry Fassett Castle, who died in November, 1919, at the age of 19, having completed the previous June the work of the first year in the Medical School.

David Williams Cheever (1889). David Williams Cheever, A.B. 1852, M.D. 1858, LL.D. For a first year student after three months' study in the Medical School.

David Williams Cheever #2 (1947). David Cheever, A.B. 1879, M.D. 1901. To be awarded at the beginning of the year to a first year medical student in hope that after the stated pro-

bationary period he may be awarded the scholarship founded by David Williams Cheever, A.B. 1852, M.D. 1858.

Eleanor Dwight Clark (1938). For one or more scholarships of the type of the Harvard National Scholarships.

Owen Copp (1936). Hattie G. Copp. To assist one or more needy and worthy students.

Cotting Gift (1900). Benjamin E. Cotting, A.B. 1834, M.D. 1837. Awarded on the basis of pecuniary need, intellectual capacity, faithfulness, and earnest endeavor.

Myron Denton (1956). Myron P. Denton, in memory of his father.

Orlando W. Doe (1893). Orlando Witherspoon Doe, A.B. 1865, M.D. 1869. To be given annually to a deserving student in the Medical department.

George Russell Eager (1936). Miss Mabel T. Eager, in memory of her father.

Henry Ehrlich Memorial (1927). Friends and family of Henry Ehrlich, M.D. 1886. To be used for the assistance of needy and worthy students regardless of creed or color.

Russell Dunson Elliott (1950). Awarded annually to properly qualified applicants, preferably of Anglo-Saxon ancestry.

Horace Putnam Farnham (1918). Mrs. Eliza Cary Farnham in memory of her husband, Dr. Horace Putnam Farnham, A.B. 1843. For the benefit of meritorious students in the Harvard Medical School.

Reginald Fitz (1954). Scholarships for students in the Harvard Medical School.

Dr. E. Peabody Gerry (1943). The income to aid first year students.

Charlotte Greene (1925). Edwin Farnham Greene. For a first year student whose previous record indicates special promise.

Dr. C. Eugene Gunther (1933). Mrs. C. Eugene Gunther in memory of her husband. To be used to maintain two scholarships for the benefit of deserving medical students.

William Waugh Haggart (1955). G. Edmund Haggart, M.D. In memory of his brother for scholarships, beneficiary aid or loans.

Dr. Worth Hale (1968). Class of 1943A.

Edward Warren Harnden (1957). William H. Snyder, Jr. and Monica H. Snyder. For scholarships, loans or other financial aid.

Dr. Charles Harrington (1959). In memory of Dr. Charles Harrington. Beneficiary aid for deserving students.

Faith Garrison Harwood (1964). Dr. Reed Harwood. Scholarships for any qualified students at the Harvard Medical School.

George Haven (1913). George Haven, M.D. 1883. To be used annually for scholarships for students of the first year in the Medical School.

Lewis and Harriet Hayden (1894). Mrs. Harriet Hayden. For colored students. The income may be divided. If not awarded in the Medical School, the School of Public Health, or the School of Dental Medicine, it is open to colored students in any other department of the University.

Health Professions Scholarship. Department of Health, Education, and Welfare (Public Health Service) under the Health Professions Educational Assistance Act.

Frederick Warren Hecker (1963). Bequest of Eugene A. Hecker in memory of Frederick Warren Hecker. For scholarships to worthy and needy students.

Ernest Laurence Hill (1961). Annette S. Hill. In memory of son — to assist medical students from Maine and New Hampshire.

William Hilton (1897). Two scholarships annually in the Medical School.

Lena C. Howard (1967). For scholarships to worthy colored students in the Harvard Medical School.

William Otis Johnson (1911). Mrs. William O. Johnson, in memory of her husband, William Otis Johnson, A.B. 1845, M.D. 1848.

Claudius M. Jones (1893). Claudius Marcellus Jones, A.B. 1866, M.D. 1875.

Thomas Hinckley Lanman (1961). Established by the Harvard Medical Alumni Council.

Frederic T. Lewis (1965). Bequest of Ethel S. Lewis. Scholarship for a first year student.

Alfred Hosmer Linder (1895). Mrs. George Linder. For a student of sound principles and marked ability.

Arthur Theodore Lyman and Henry Sturgis Grew Memorial Scholarship (1926). On March 19, 1951, it was voted by the Corporation . . . "to provide that such income shall be available, until further order of this board, for scholarships in the Medical School, the School of Dental Medicine, and the School of Public Health; preference to be given to Chinese students, with the understanding that if none such apply successfully, the income may be used for scholarships for students from elsewhere in the Far East."

George Sturtevant MacPherson (1965). Estate of Janice M. Blood. Scholarships for deserving students preferably from the State of Maine or from New England.

James Ewing Mears, M.D. (1909). J. Ewing Mears. For a student throughout the full course of four years, subject to his scholastic standing and good conduct.

Medical School Class of 1879 (1909). Established by the Class of 1879 as a loan fund and later converted to a scholarship.

John Morgan Memorial (1961). The Francis Beidler Charitable Trust. For scholarships or other financial aid for students from the State of Illinois.

Ernest Omar Nay (1947). Ernest Omar Nay, M.D. 1919. For a medical student from the states of Indiana, Illinois or Ohio whose scholarship is above the average and whose financial resources are such that he cannot unaided acquire a medical education.

Joseph Pearson Oliver (1904). Patients of Joseph Pearson Oliver, M.D. 1871. To be awarded to a needy and deserving student of the Medical School.

J. Eliot Overlander (1947). John Eliot Overlander, M.D. 1909. To assist such needy medical students as may be deemed worthy of assistance by the proper authorities.

Alwin M. Pappenheimer '99 (1957). Beatrice L. Pappenheimer. For the benefit of such graduate students in the fields of medicine or music.

Jacquelyn Pines (1966). Scholarships to incoming students.

Charles B. Porter (1897). William L. Chase.

Dr. Flavius Searle (1921). Miss Mary L. Searle, in memory of her father, Dr. Flavius Searle. The stipend may be divided.

Joseph J. Silbert (1937). For scholarship or loans to needy students.

Eleanor B. and Channing S. Simmons (1954). Scholarships for two needy students.

Francis Skinner (1905). Francis Skinner, Esq. To be used in small sums to meet the urgent needs of meritorious students in the payment of term-bills or other expenses.

Charles Pratt Strong (1894). Friends and patients of the late Charles Pratt Strong, A.B. 1876, M.D. 1881.

Isaac Sweetser (1892). Mrs. Anne M. Sweetser. To be "de-

voted to the aid of poor students of ability who would not otherwise be able to continue the studies necessary for their profession."

Edward W. and Elsie B. Taylor (1961). Katherine B. Taylor. For financial aid to students.

John Houghton Taylor (1966). Mrs. John H. Taylor in honor of her husband, John H. Taylor, A.B. 1913, M.D. 1916. For financial aid to students.

John Thomson Taylor (1899). Mrs. Frederic D. Philips, in memory of her brother, John Thomson Taylor. To be paid to some meritorious undergraduate of the Medical School without regard to his pecuniary circumstances.

Mary Thacher (1956). Mary Thacher. To be applied against the tuition of needy students preferably from first, Yarmouth, Massachusetts, secondly from the Cape Cod region of Massachusetts, and thirdly from Massachusetts.

James Rockwell Torbert (1958). Elizabeth T. Torbert. In memory of her husband James Rockwell Torbert, H.M.S. 1902.

Walker Scholarships (1922). Miss Leslie Walton Walker, four scholarships.

Dr. Charles Walker

Helen L. Walker

Anna G. Walker

Leslie W. Walker

Richard H. Wallace (1960). The family and friends of Richard H. Wallace, H.M.S. 1927.

Abraham A. Watson (1923). Miss Catherine E. Walker. For the benefit of students in the Medical School.

Major Harrison Briggs Webster, U.S.A. Memorial (1921). Gift of L. Florence Webster in memory of her son, Class of 1905, to sons of members of that class or to a needy student in the Medical School.

Charles H. Weed Memorial (1961). Friends, students, and patients of Dr. Weed. For scholarship or other financial aid to students.

Mary Dana Wells (1969). Mrs. C. McGregory Wells, Jr. For a full scholarship.

Dr. Charles J. White (1959). Mrs. Bertha Lea Stone, Mr. Charles B. Barnes and Sundry Donors. For scholarship or fellowship or other academic purpose.

Edward Wigglesworth (1897). The family of Edward Wigglesworth, A.B. 1861, M.D. 1865.

James F. and Helena C. M. Willis (1961). Helena C. M. Willis. For a student who is a native of Boston.

Paul Richmond Withington, Jr. (1960). The family and friends of Paul Richmond Withington, Jr.

S. Burt Wolbach (1955). Dr. and Mrs. Robert E. Gross.

Fellowships and Scholarships Available in other Departments of the University as well as in the Medical School

The fellowships, scholarships and loans listed below which are marked with an asterisk (*) give preference to, or are restricted to, students who come within the special terms set forth. Unless otherwise stated, applications should be made, before February 1, to the Deans of the Medical School and School of Dental Medicine.

*John Austin Amory, Class of 1907, Scholarship Fund (1954). Gift of Roger Amory, Class of 1910, to establish "the John Austin Amory, Class of 1907, Scholarship Fund . . . . to provide one or more scholarships for candidates for a degree in any college or graduate school of the University." Under certain conditions a grandson by male line of John Austin Amory, '07, may be entitled to the income. If no awards are made to preferen-

tial candidates, the income shall be assigned to the College Admission and Scholarship Committee.

John E. Andrus Scholarship Fund (1966). A gift "for scholarship or fellowship grants in such amounts and to such worthy and needy students at the college or any of the graduate schools as the University, through its appropriate committee, shall from time to time determine."

Anonymous No. 63 (1961). Anonymous gift "to provide an endowment fund, the income to be used for scholarships to graduates or undergraduates in Harvard University or Radcliffe."

Hattie G. Atkins Bequest (1961). Residuary bequest of Hattie G. Atkins in memory of her ancestor, Matthew Gannett, the income to be used for not more than two graduate or undergraduate scholarships.

William Bridgman Atkinson '39 Memorial Fund (1952). Anonymous gift "to provide one or more scholarships or beneficiary grants to graduates or undergraduates in Harvard University. These awards shall be based on need and character and not scholarship alone."

Edward Austin Bequest (1899). For fellowships or scholarships in any department of the University.

Jason S. Bailey Fund (1952). Residuary bequest of Jason S. Bailey. For scholarships in any department of the University.

*Zlatko and Joyce Balokovic Scholarship Fund (1966). A gift of Joyce Balokovic in memory of her husband to . . . "promote better international relationships through growing understanding among all peoples and in particular between the people of Yugoslavia and the United States of America." For a student from Croatia or Yugoslavia. Nominations to be submitted by the Yugoslav Academy of Arts and Sciences in Zagreb.

Albert M. Barnes Memorial Fund (1959). The income only to be used "for scholarships for students in Harvard University who are worthy recipients of such aid."

Ellen S. Bates Fund (1929). Residuary bequest of Ellen S. Bates. For scholarships to deserving students in any department of the University. To be awarded every third year, with the next award to be made in 1970.

*Baxendale Scholarship (1928). Bequest of Esther M. Baxendale. Preference: (1) descendants of Alan Bedford Hudson; (2) students of the name of Baxendale or Hudson; (3) students from Brockton, Mass., or Bourne, Mass. Birth certificate and genealogical record required of (1).

Henry A. Belcher Fund (1965). Bequest of Hannah B. Belcher. To establish a fund "to be known as the Henry A. Belcher Fund, the income of which shall be used in providing free scholarships for students of said University as the Trustees or officers thereof may direct."

*Frank Boas Scholarship Fund (1964). Gift of Mr. and Mrs. Maurits C. Boas, "to establish a graduate scholarship in any one of the graduate schools of Harvard University for one year of study. Nominations shall be submitted by the United States Educational Foundation in Belgium from applicants from Belgium or the Grand Duchy of Luxemburg, and the award shall be made by the appropriate authorities of Harvard University upon the admission of the student to the University. The income of the Fund shall be used as needed to cover all expenses in the United States including tuition. With the approval of the Foundation the award may be renewed for one additional year. In the event the Foundation fails to submit nominations for three years the income of the Fund may be used by Harvard, for financial aid to students from Belgium or the Grand Duchy of Luxemburg."

*Bright Legacy (1880). Bequest of Jonathan Brown Bright. For descendants of Henry Bright, Jr., of Watertown, Mass., who bear the name of Bright, registered in any department of the University. If no awards are made to preferential candidates, the income shall be assigned to the College Admission and Scholarship Committee. Birth certificate and genealogical record required to establish special claim.

*Daniel A. Buckley Bequest (1905). Bequest of Daniel A. Buckley of Cambridge, Mass. For needy and worthy graduates of Latin, High and other public non-sectarian schools in Cambridge enrolled in any department of the University. Awards to undergraduates will be made by the College Admission and Scholarship Committee.

*Godfrey L. Cabot, Inc. Scholarship Fund (1955). For scholarships and grants of "aid" to students enrolled in any department of the University. A son of an employee of Godfrey L. Cabot, Inc. or of its subsidiary and associated companies, who applies for aid or a scholarship, may be preferred in the awards from this fund.

*Frank Lawton Cady Scholarship Fund (1965). Residuary bequest of Caroline Cady Hewey . . . "for the purpose of establishing a scholarship or scholarships as a memorial to my said father, . . . the income of which shall be expended primarily in assisting worthy and deserving students, graduates of the Mansfield High School in obtaining an education at Harvard University."

*Frank Milton Cady Scholarship Fund (1965). Residuary bequest of Caroline Cady Hewey ". . . in memory of my brother, Frank Milton Cady, for the purpose of establishing a memorial to him, and to be known as the "Frank Milton Cady Scholarship," the income thereof to be expended primarily in assisting worthy boys of good character from the Mansfield High School."

James Emerson Carpenter Fund (1963). Residuary bequest of Emmie L. Carpenter "to be devoted annually for deserving and needy students." A portion of this fund has been set aside for use by the University Health Services at the discretion of the Director to assist needy and worthy students meet unusual medical costs.

* Madame Marguerite Carrière Fellowship Fund (1959). Residuary bequest of Louis A. Freedman in memory of his wife. The fellowship is to be awarded in alternate years to a graduate

student at Harvard University for study in France and to a French graduate student for study at Harvard University. It is hoped that the aim of the American student in France will be to study the French traditions and attitude so as to better understand and explain the French reaction to the problems that concern both countries and that similar aim will guide the French student in America. In 1969–70 this award will be available to a Harvard graduate student for study at a French university.

*Victor Emmanuel Chapman Memorial Fellowship (1917). Several donors. In memory of Victor Emmanuel Chapman, A.B. 1913, killed in World War I. For a French youth (or youths) for study in any department of the University. Apply through the Institute of International Education, 800 Second Avenue, New York, New York 10017, before December 1. Students already enrolled at Harvard should apply through their Schools.

*Joseph Hodges Choate Memorial Fellowship (1919). Gift of the Harvard Club of New York City in memory of Ambassador Joseph Hodges Choate, A.B. 1852. Awarded upon the nomination of the Vice-Chancellor of the University of Cambridge, England, to a British subject coming from that University to study in any department of Harvard University.

*George Chase Christian Memorial Scholarships (1936). Gift of Carolyn McKnight Christian in memory of her husband. George Chase Christian, A.B. 1895. To be awarded as National Scholarships to residents of Minnesota, for study in any department of the University, preferably the graduate schools.

*Mark D. Cory Scholarship (1954). Residuary bequest of Mark D. Cory. To be awarded to a worthy graduate of the Gadsden High School, Gadsden, Alabama, to be selected and designated by the faculty of said high school. Available for students in any department of the University. Administered by the College Admission and Scholarship Committee.

*Myer Dana and Etta Dana Scholarship Fund (1953). Gift of Etta (Mrs. Myer) Dana. To provide scholarships or bene-

ficiary aid to needy and deserving students in the College, Law School, or Medical School. Awards are made upon the recommendation of the Deans of these Schools and not upon application.

Frank L. DeLong Bequest (1964). Residuary bequest of Frank L. DeLong, A.B. 1890, A.M. 1892. The income is to be used for scholarships in Harvard University.

*Charles Downer Scholarship Fund (1927). Bequest of Charles Downer, A.B. 1889, LL.B. 1892. For students in any department of the University in the following order of preference:

A. Students of "English or Anglo-Saxon stock" who bear the family surname of Downer by right of birth or inheritance, and not because of adoption, preference to be given to such students who are descendants of Joseph and Robert Downer, of Wiltshire, England, who came to America about 1650. Scholarship awards under this category will be sufficient to pay for tuition, books, food, room and other incidentals in any academic year.
B. Descendants of members of the Harvard College Class of 1889 who are in need of assistance.
C. Residents of the State of Vermont, preference to be given to those most worthy of assistance.
D. Students worthy of assistance and of high scholarship, preference to be given to (1) Descendants of graduates of Harvard College, and (2) Those "of that old Anglo-Saxon stock which has gone forth from New England into all parts of the United States and has been the means of giving strength and stability and character to our government."

Or, any balance of income remaining after the award of scholarships as specified in paragraphs A, B and C above may be used for fellowships for Harvard graduates of high scholarship and of rare and unusual ability who are pursuing special work either at Harvard or at any American or foreign university or school.

*Dwight D. Eisenhower Scholarship Fund (1962). Gift of William A. Hinton in memory of Augustus and Maria Hinton, "the income to be used to assist graduate students in any depart-

ment by way of scholarship grants, prizes for scholarly treatises or other achievements, or otherwise."

Joseph Eveleth Bequest (1896). For needy and worthy students in any department of the University.

Bradley Fisk Scholarship (1963). Gift in memory of Bradley Fisk, the income to be used "to provide one or more scholarships or other forms of financial aid to students in Harvard University."

*Thomas Hooker Flint Memorial Scholarship (1957). Established by the friends and family of Thomas Hooker Flint, Harvard College Class of 1958, who died in 1957 in a climbing accident on Mount Madison, in the White Mountains, New Hampshire. The scholarship may be awarded either to students in Harvard College or Harvard Medical School, with preference for graduates of the Belmont Hill School. Thomas Flint was born in Concord, Mass., April 22, 1936, attended Belmont Hill School, and entered Harvard College in the Class of 1958 as an Honorary National Scholar, and hoped to attend Harvard Medical School. The scholarship is established in the conviction that those who benefit from it will fulfill the promise of his short life, as expressed in the closing words of a prayer known to have been Thomas Flint's guide in life: "Help us to make the life of our youth as lovely as the world in which it lives; the brotherliness of humanity equal to the beauty of nature."

*Addison H. Flournoy Bequest (1967). The bequest is "to Harvard University to be applied to scholarships for American Negro students."

*Francis Lee Friedman Fund (1962). Gift of the O-F Foundation, Inc., the income to be used "for scholarships in Physics for undergraduate or graduate students." One third of the income is to be used for scholarships to undergraduates and two-thirds of the income is to be used for scholarships in the Graduate School of Arts and Sciences. Awards are made upon the recommendation of the Chairman of the Physics Department and not upon application.

Gage Scholarship (1948). Bequest of Homer Gage, A.B. 1882, M.D. 1887. In memory of Thomas H. Gage, M.D. 1852, Homer Gage, 1882, Thomas H. Gage, Jr., 1886, and Homer Gage, Jr., 1918. For students registered in any department of the University.

*Jean Gaillard Memorial Fellowship (1946). Established in memory of Jean Gaillard, a student of the École Centrale des Arts et Manufactures in Paris, who served as an Aspirant in the French Air Forces, was arrested by the German Gestapo, and died in the German concentration camp at Ravensbrueck April 16, 1945, a victim of Nazi inhumanity. For French youths for study in any department of Harvard University or of the Massachusetts Institute of Technology. The incumbents from year to year are to be nominated by the Board of Directors of the École Centrale des Arts et Manufactures in Paris.

*Joseph Ernest and Octavia Walton Goodbar Scholarship (1965). Residuary bequest of Octavia Walton Goodbar to establish a scholarship ". . . for needy students of high scholastic standing and good moral qualities at Harvard and/or Radcliffe College."

John Tyler Hassam Memorial Scholarship (1941). Bequest of Eleanor Hassam in memory of her father, John Tyler Hassam, A.B. 1863. For students registered in any department of the University.

Nathan Hayward Memorial Scholarship Fund (1956). Gift of Anna S. (Mrs. Nathan) Hayward in memory of her husband. For Nathan Hayward Scholarships or aid to students in any department of the University.

*Caroline Cady Hewey Fund (1965). Residuary bequest of Caroline Cady Hewey ". . . for the purpose of establishing a scholarship in my name for the purpose of educating and fitting students who propose to engage in the Diplomatic Service of the United States."

*Charles W. Holtzer Fellowships (1929). Bequest of Charles W. Holtzer. For young men of German birth who have received

their preliminary education in German institutions of learning, to study in any department of the University. Preference is given to students in Germany at the time of application. Students in Germany may apply either through the Deutscher Akademischer Austauschdienst, Nassestrasse 11, Bonn, or the Institute of International Education, 800 Second Avenue, New York, New York 10017, before December 1. Students enrolled at Harvard should apply through their Schools. Documentary proof of German birth and education required.

Edward William Hooper Memorial (1905). The gift of friends of Edward W. Hooper, A.B. 1859, LL.B. 1861. For one or more fellowships in any department of the University.

Charles Lloyd Huff Scholarship Fund (1949). Residuary bequest of Anna Elizabeth (Mrs. Charles Lloyd) Huff, in memory of Charles Lloyd Huff, A.B. 1913. Income assigned to the College Admission and Scholarship Committee.

*Sinclair Kennedy Fund (1948). Gift of Mrs. Rae B. Kennedy in memory of her husband, Sinclair Kennedy, A.B. 1897, LL.B. 1906. For grants to students enrolled in any of the graduate departments of the University for travel and residence outside the United States. "This fund to provide grants for travel is created in the belief that an opportunity to observe and to compare, to seek meanings and reasons, may enlarge the understanding of the traveller and, through him, be of general value." Not open to competition by undergraduates, including graduating seniors, in the College. Recommendations for Kennedy Fellowships are made on behalf of students by the Deans or Chairmen of the Departments in which the student is registered. In addition, at least two letters of recommendation from the student's instructors, and a somewhat detailed statement of purpose written by the candidate, must be submitted on his behalf. All material is then forwarded to the General Scholarship Committee Office, 906 Holyoke Center, Cambridge, before December 1.

Arthur Edwin Kennelly Memorial Fund (1964). Bequest

of Reginald Grice Kennelly in memory of his father, Arthur Edwin Kennelly. For students in any department of the University, but preferably for undergraduates.

*Frank Knox Memorial (1946). Gift of Annie Reed Knox in memory of her husband, Col. Frank Knox, LL.D. (Hon.) 1942, Secretary of the Navy, 1940–44. "It is my hope that this fund . . . will play a part in an integrated program of exchange fellowships throughout the world. The Frank Knox Memorial is established because of the firm belief of my dear husband, a conviction which I share, that cooperation between the British Commonwealth and the United States of America, based upon an informed and understanding contact of the peoples of these two great countries, is an essential to international peace." Candidates shall be selected on the basis of future promise of leadership, strength of character, keen mind, a balanced judgment and a devotion to the democratic ideal. Fellowships are to be awarded annually to:

1. Students coming from the following British Commonwealth countries: the United Kingdom, Australia, New Zealand, and Canada. Students should apply through their university before November 1 of the year preceding award.

2. Recent graduates of Harvard College, or students who have completed at least one year of study in one of the Harvard graduate schools, for study in any one of the countries listed above.

Procedure for graduate students for travel grants only. Recommendations for Knox Fellowships are made on behalf of students by the Deans or Chairmen of the Departments in which the student is registered. In addition, at least two letters of recommendation from the student's instructors, and a somewhat detailed statement of purpose written by the candidate, must be submitted on his behalf. All material is then forwarded to the General Scholarship Committee Office, 906 Holyoke Center, Cambridge, before December 1.

Procedure for College students (graduating seniors only) for travel grants only. Recommendations for Knox Fellowships are made on behalf of students by their Department Chairmen and House Masters or Senior Tutors. Application material is due March 1 in the Office of the Dean of the College, 4 University Hall, Cambridge. Nominees are selected by informal interviewing committees.

*Henry L. F. Kreger Memorial Scholarship (1966). "The income of the fund shall be used each year for a scholarship or scholarships in Harvard College or Harvard Law School to be awarded by the President and Fellows of Harvard College in accordance with the University procedures as established from time to time and upon the nomination of the Harvard Club of Cleveland, Ohio. In addition to the scholarships, the income may be used, upon the recommendation of the President and Fellows of Harvard College and with the approval of the Harvard Club of Cleveland, Ohio, for loans or other forms of financial aid to students who may, but not necessarily, be holders of this scholarship."

*Arthur Lehman Fund (1936). Gift of Adele L. (Mrs. Arthur) Lehman and her daughters and sons-in-law, Mr. and Mrs. Richard J. Bernhard, Mr. and Mrs. Benjamin J. Buttenwieser and Mr. and Mrs. John L. Loeb, in memory of Arthur Lehman, A.B. 1894. For Arthur Lehman Fellowships to be awarded along the general lines of the Harvard National Scholarship Plan. For students of exceptional merit and promise in the graduate and professional schools only of the University, preference to be given to the following: Graduate School of Arts and Sciences, Graduate School of Design, Graduate School of Education, Medical School, Graduate School of Public Administration.

Horace Louis Leiter Memorial Scholarship (1955). Bequest of Marietta D. Leiter in memory of her husband, Dr. Horace Louis Leiter, A.B. 1899. For deserving students in any department of the University.

George Vasmer Leverett Scholarship (1958). Residuary bequest of George Vasmer Leverett of the Class of 1867. To "establish new scholarships or fellowships."

*Lincoln Scholarship (1876). Residuary bequest of Miss Levina Hoar. Preference for needy and worthy students from Lincoln, Mass. If there are no such applicants, the income is assigned to the College Admission and Scholarship Committee for award to undergraduates.

Charles R. Lowell and Anna L. Lowell Scholarship (1949). Residuary bequest of Anna L. (Mrs. Henry E.) Woodbury for the establishment of two scholarships, to be known as "The Charles R. Lowell and Anna L. Lowell Scholarship" and "The James J. Lowell and Anna L. Woodbury Scholarship" for "worthy, deserving and indigent young men who may be shown to be unable to pay their tuition." Available for award in any department of the University. Income assigned to the College Admission and Scholarship Committee.

James J. Lowell and Anna L. Woodbury Scholarship (1949). Residuary bequest of Anna L. (Mrs. Henry E.) Woodbury, *see above*. Income assigned to the College Admission and Scholarship Committee.

Frances E. Markoe Residuary Bequest (1944). Residuary bequest of Frances E. (Mrs. Harry) Markoe for the establishment of scholarships for students in any department of the University.

*Sir Robert Gordan Menzies Scholarship (1967). "The Robert Gordon Menzies Scholarship to Harvard University (and from Harvard to the Australian National University) was established by the Harvard Club of Australia in association with the Australian National University to honour a great Australian Statesman. The broad aim of the scholarship is to assist the development of Australia by awarding a scholarship each year to an Australian graduate to attend any graduate school of Harvard. In addition, from time to time it is the Fund's intention to award

a similar scholarship to a Harvard man in the United States to spend a year at the Australian National University. No time limit is connected with the scholarship but it is unlikely that any scholarship would be renewed for a second year. It is the Fund's aim to select as a Menzies Scholar a person who has the potential to make a contribution to Australia and for whom Harvard University is a logical extension of his career plan." Students applying from Australia should consult the Registrar of the Australian National University, Canberra, A.C.T.

*Alwin M. Pappenheimer '99 Fund (1957). Bequest of Beatrice L. (Mrs. Alwin M.) Pappenheimer, in memory of her husband; "the income therefrom to be used for any kind of financial assistance, whether for tuition, books, necessary maintenance and support or otherwise, to graduate students in the College or in any graduate school of the University, suggesting, but not binding the President and Fellows of Harvard College hereby, that the said income be preferably used for the benefit of such graduate students in the fields of medicine or music." The income is allocated equally between the Medical School and Graduate School of Arts and Sciences. Awards made by the scholarship committees of those schools.

*John Parker Bequest (1873). Bequest of John Parker for fellowships to further the scientific education either abroad or in the United States (including Harvard University) of exceptionally talented graduate students devoting themselves to the study of one of the natural sciences. Not open to competition by undergraduates, including graduating seniors, in the College. Candidates from the following areas are considered: Divisions of Engineering and Applied Physics (if candidate's field is concerned with a natural science), Geological Sciences and Medical Sciences; Departments of Astronomy, Biology, Chemistry and Physics. Recommendations for Parker Fellowships are made on behalf of students by the Chairmen of the Divisions and Departments listed above. In addition, at least two letters of recommendation from the student's instructors, and a somewhat detailed statement of

purpose written by the candidate, must be submitted on his behalf. All material is then forwarded to the General Scholarship Committee Office, 906 Holyoke Center, Cambridge, before January 10.

*Frederick E. Parlin Fund (1928). Bequest of Albert Norton Parlin. For needy and worthy students in any department of the University, preference to be given to natives of Malden or Everett, Mass. Evidence that applicant is a native of either Malden or Everett should accompany application of student seeking to establish preferential claim.

*William Pennoyer Bequest (1670). Bequest of William Pennoyer of England, for two fellows and two scholars; one preferably to be a descendant of Robert Pennoyer (a brother of William) and the other . . . [from] . . . New Haven [Colony]. Preference to be given to undergraduate descendants. Pennoyer descendants in the graduate schools may apply for the Pennoyer Scholarship by filing such application directly with the College Admission and Scholarship Committee. Certified genealogical records required to establish claim.

*Aristides Evangelus Phoutrides Memorial (1925). Gift of friends of Aristides Evangelus Phoutrides, A.B. 1911, Ph.D. 1915, to provide a scholarship in his memory for a student of Greek birth or of Greek parentage in any department of the University. Documentary evidence of Greek birth or parentage required of applicants.

*Princeton Fellowship (1910). Gift of Cleveland H. Dodge. To be awarded to a graduate of Princeton University, for his first year of study only, in one of the graduate departments of Harvard University.

*Leon W. Redpath Scholarship (1938). Bequest of Eliza Allen (Mrs. Ellis W.) Redpath in memory of her son Leon W. Redpath, A.B. 1898. For deserving students from the State of Ohio, registered in any department of the University, with preference to residents of Stark and Tuscarawas Counties.

*Franklin Reynolds Fund (1925). Residuary bequest of John F. Reynolds. For students in any department of Harvard University and Radcliffe College who are natives of Marblehead, Mass. Application should be accompanied by evidence that applicant is a native of Marblehead.

*James A. Rumrill Scholarships (1909). Gift of Anna Chapin (Mrs. James A.) Rumrill in memory of her husband James Augustus Rumrill, A.B. 1859, to establish three scholarships, two of which are available to graduates of secondary schools in Virginia, North and South Carolina, Florida, Georgia, Tennessee and Kentucky, for their first year of residence as undergraduates in Harvard College. The third scholarship is for a graduate of a college or university in any of the above-named states for study in his first year of residence in any graduate department of Harvard University. These scholarships are not renewable. In the absence of properly qualified candidates from the above-named states, the scholarships may be thrown into general competition, as two undergraduate scholarships and one graduate scholarship. Entering students in the College apply to the College Admission and Scholarship Committee; entering students in the graduate departments apply through the Deans' Offices of their Schools.

Arthur Sachs Scholarship and Financial Aid Fund (1958). Gift of Arthur Sachs, Class of 1901, of Paris. "To make an enduring contribution to the relations between the two countries (the United States and France), by enabling an increasing number of the most deserving and able students in France to study in the United States." The income of this fund will "provide financial assistance for French students enrolled or to be enrolled" in Harvard University. Nominations are made by the Sachs Scholarship Committee in Paris. Inquiries from French students should be addressed to Cultural Attaché, United States Information Service, 4 avenue Gabriel, Paris 8 e, France.

*Peter Brooks Saltonstall '43 Memorial (1947). Gift of the family of Peter Brooks Saltonstall, 1943, who was killed in action on the Island of Guam on August 13, 1944. Peter B. Saltonstall

was the son of Leverett Saltonstall, A.B. 1914, LL.B. 1917, United States Senator from Massachusetts and formerly Governor of Massachusetts. To further the education, the health and welfare of the peoples inhabiting the Hawaiian Islands and those islands west of Hawaii, including New Zealand, the Fiji Islands and Australia and also Japan, South Korea, Hong Kong, Formosa, the Philippine Islands, Vietnam, the East Indies, Indonesian Islands, Sumatra and Thailand. The first preference is that the income of this fund be used for scholarships or fellowships to assist worthy students from the above-named Pacific regions to gain a better education at Harvard University. The stipend shall be set to supplement the holder's income sufficiently to defray all his basic expenses of tuition, board and room, and in certain instances some travel allowance may be included. Students may apply directly to Harvard or through the Institute of International Education, 800 Second Avenue, New York, New York 10017, before December 1. Students already enrolled at Harvard should apply through their Schools.

In the event that no suitable candidate for the scholarship appears, the unexpended income and its accumulation shall be available for the support of research to better the living conditions or the general well-being of the peoples in the Pacific region described above, such research grants to be made by vote of the Corporation on the recommendation of the Dean of the Faculty of Arts and Sciences.

Charles N. Shaw Fund (1960). Bequest of Charles Nason Shaw. For the support of needy and deserving students in any department of the University.

*Frederick Sheldon Fund (1909). Residuary bequest of Amey Richmond (Mrs. Frederick) Sheldon, in memory of her husband. The income of this Fund is "to be applied . . . to the further education of students of promise and standing in the University by providing them with facilities for further education by travel after graduation or by establishing travelling scholarships."

Every holder of a Sheldon Fellowship, or Sheldon Prize Fellow-

ship, must be a member of the University at the time of his appointment and must hold a Harvard degree, or be a candidate for a degree in June of the year of appointment.

Procedure for graduate students. Recommendations for Sheldon Fellowships are made on behalf of students by the Deans or Chairmen of the Departments in which the student is registered. In addition, at least two letters of recommendation from the student's instructors, and a somewhat detailed statement of purpose written by the candidate, must be submitted on his behalf. All material is then forwarded to the General Scholarship Committee Office, 906 Holyoke Center, Cambridge, Massachusetts 02138, before December 1. Holders may enroll at universities in this country — outside Harvard University — or abroad, for purposes of formal study or research, or they may engage in travel, or they may combine travel and study.

Procedure for College students (graduating seniors only). Recommendations for Sheldon Prize Fellowships are made *on behalf* of students by their Department Chairmen and House Masters or Senior Tutors. Holders are expected to engage in travel rather than intensive research and they may not enroll in foreign universities for formal study. Application material is due *March 1* in the Office of the Dean of the College, Room 4, University Hall. Nominees are selected by informal interviewing committees.

*Ernest Frederick Slater Scholarship (1955). Bequest of Ernest F. Slater. The income to be awarded as scholarships in any department of the University to deserving (financially or otherwise) young men who are residents of (a) the City of Orangeburg, South Carolina; (b) the State of South Carolina; preference to be given to descendants by birth or adoption of Edward Frederick Slater, father of the donor, regardless of their residence. Not open to students in their first year at the University.

*Charles H. Smith Bequest (1947). Residuary bequest of

Charles H. Smith. For awards to students in any department of the University according to the following order of preference:

1. a. Graduates of public high schools in Providence, Rhode Island, who are of scholarship rank.
   b. Graduates of public high schools in Providence, Rhode Island, who are below scholarship rank but who are considered eligible for financial aid.
2. Graduates of other (non-public) secondary schools in Providence, Rhode Island, who are of scholarship rank.
3. Any residents of Rhode Island not indicated above who are of scholarship rank.

Alfred Richard Solvie Bequest (1967). The residuary bequest of Alfred Richard Solvie "to be used for scholarships for deserving persons for study in any school or department of Harvard University."

Charles Harold Stanton Scholarship (1963). Bequest of Katharine Stanton "the income only to be used to provide a scholarship in memory of my nephew."

*William Stoughton Bequest (1701). Bequest of Lieutenant Governor William Stoughton, A.B. 1650. For awards to students in any department of the University according to the following order of preference: (a) Residents of Dorchester or Mattapan, Mass.; (b) Residents of Milton, Mass.; (c) Any needy and deserving students.

*Alexander Wheelock Thayer Bequest (1899). Bequest of Alexander Wheelock Thayer, 1843, the income to be expended "in assisting worthy and needy young men at the said Harvard University in their efforts to obtain an education." Preference to be given "to young men bearing the name of Thayer."

John E. Thayer Scholarships (1857). Bequest of John E. Thayer, the income to be paid "to the ten most meritorious scholars in Harvard University in Cambridge every year . . . the in-

come shall only be paid to such meritorious scholars as who may actually need the same."

*Augustus Clifford Tower Fellowship Fund (1927). Gift of Louise G. (Mrs. Augustus Clifford) Tower for two fellowships to be awarded annually to:

1. A graduate of Harvard College, who may be either a graduating senior or a student enrolled in one of the graduate departments of the University, for study in a French university, preference to be given to a student of Anglo-Saxon descent. Graduating seniors should consult their Department Chairmen, House Masters, or Senior Tutors with regard to the application procedure. Graduate students should consult their Deans or Department Chairmen. Nomination, on the basis of application material and interview, is made by a special selection committee to the Committee on General Scholarships.
2. A French student for study in any graduate department of Harvard University. French students should apply through the Directeur, École Normale Supérieure, 45 rue d'Ulm, Paris 5e, France, early in January.

In addition to the above fellowships, a sum from the Tower Fund is set aside annually for a travel grant to either a graduating senior or a student enrolled in one of the graduate departments of the University, who is nominated by a special selection committee to attend the École Normale Supérieure in Paris, on a fellowship provided by the French Government. Candidates should be United States citizens. For application procedure see paragraph 1 above.

Joseph T. Tower, Jr. and Mary T. Tower Memorial Fund (1966). Residuary bequest of Maria B. Tower . . . the income of said fund to be used for scholarships at Harvard University. "It is my desire that the amounts and terms of such scholarships shall be such as to attract applicants of outstanding character and ability and that in the award of such scholarships (according to such method as shall be deemed appropriate), each applicant's

character, capabilities, personality and qualifications for leadership shall be considered to be of special importance."

University General Scholarship Fund (1951). Established by the President and Fellows of Harvard College. For scholarships to students in any School or department of Harvard University.

*Thomas E. Upham Class of 1868 Fund (1939). Bequest of Marcella B. Upham. May be granted annually to worthy graduates of Harvard College in any department of the University who are "preparing to serve our country in public offices of trust and responsibility in the gift of the people, students of American parentage descended from the early settlers to be chosen in preference to others, provided they are equally worthy of assistance."

Variell Scholarship (1961). Bequest of Katharine S. Variell in memory of Montfort Schley Variell, the income to be used for music students particularly interested in the piano. Awards are made upon the recommendation of the Chairman of the Music Department and not upon application.

*Anna Vaughn Foundation (1935). Residuary bequest of John Vaughn, A.B. 1879. For "meritorious students of Harvard University who are pursuing studies in any biological science."

Emanuel L. Verveer Bequest (1963). Bequest of Emanuel L. Verveer, S.B. 1898, "the income only to be used to aid financially deserving students, irrespective of race, creed or color."

*Helen E. Vickery Scholarship Fund (1966). Residuary bequest of Helen E. Vickery to establish a scholarship fund "to assist worthy students, with a preference to be given to students from Fitchburg, Massachusetts."

Sarah L. Viehmann Scholarship (1936). Gift of Henry Bluestone, A.B. 1906, in memory of his mother, Sarah L. Viehmann. For deserving students in the College or graduate departments of the University.

The Benjamin Weaver Fund (1961). Residuary bequest of

Wealthy M. Weaver in memory of her son Benjamin Weaver, A.B. 1889, the income to be used for scholarships to students in any department of the University.

*Jens Aubrey Westengard Fund (1954). Bequest of Rebecca Aubrey Westengard. "The income is to be applied . . . to the further education of students of promise and standing in any department of the University by providing them with facilities for further education in Europe, Britain, or South America, by travel or study, or to the further education of students of promise and standing in any of those countries, by providing them with facilities for further education by travel and study in this country, preferably by study in some department of Harvard University." Students enrolled in, or expecting to enroll in, the Law School should ordinarily apply for the Jens Iverson Westengard Fund administered by that School.

*Isadore L. Westerman Scholarship Fund (1967). Residuary bequest of Sarah M. Westerman. "Only the income from the respective scholarship fund shall be used, . . . for the assistance of such worthy and deserving students as the said President and Fellows of Harvard College . . . shall in their sole discretion determine."

James K. Whittemore Fund (1963). Residuary Bequest of Francis Lee Whittemore "the income only is to be used to provide one or more scholarships in Mathematics for undergraduates in Harvard College and students in the Graduate School of Arts and Sciences." One third of the income is to be used for scholarships to undergraduates and two thirds of the income is to be used for scholarships in the Graduate School of Arts and Sciences. Awards are made upon recommendation of the Chairman of the Mathematics Department and not upon application.

*1902 World War Memorial Scholarship (1923). Gift of the Class of 1902 in memory of their classmates, André Chéronnet-Champollion, Edward Ball Cole and Elbert Walker Shirk, and to be awarded by preference to: (1) deserving sons of 1902 men

killed in World War I; (2) deserving descendants of members of the Class of 1902. Open to students in any department of the University, with preference to undergraduates. If no awards are made to preferential candidates, the income shall be assigned to the College Admission and Scholarship Committee.

*Jeffries Wyman Scholarships (1924). Bequest of Mary Wyman Davis in the name of Susan Wyman and Mary Wyman Davis. For one or more students in any graduate department of the University "who may have given promise of success in some branch of Biological Research," preference to be given to students of anatomy. Nominations are made before March 1 to the Committee on General Scholarships by a committee consisting of the Hersey Professor of Anatomy, the James Stillman Professor of Comparative Anatomy and the Director of the Museum of Comparative Zoölogy.

LOAN FUNDS

Loan funds are available for students in need of financial assistance and are usually made to meet term bills; cash is rarely provided. Short-term loans, for a period of less than six months, are available under special circumstances. In emergencies, loans may be made at any time.

Loans are available for students from Medical School funds as well as from funds allocated to the School under the Health Professions Educational Assistance Act. To provide for simplicity of administration, the interest and terms of repayment are the same on all loans regardless of source.

Loans shall bear interest at the "going Federal rate" in effect at the time the first loan was obtained. For the fiscal year, 1965–66, the rate was set at 4¼ per cent; for the fiscal year 1966–67 the rate was 4⅝ per cent; for the fiscal year 1967–68 the rate was 4¾ per cent and for 1968–69 the rate has been set at 5⅜ per cent. Any subsequent change in the rate will be announced annually on or before July 1.

The principal and interest are to be repaid over the ten year period that begins three years after graduation from the School. The period of payment may be deferred for three years of military service and/or three years in the Peace Corps or if the borrower becomes a member of the Public Health Service. Please note, however, that the beginning of the ten year repayment period is not extended when such service occurs during the three year grace period.

Repayment of loans may be made in equal or graduated installments with the right of the borrower to accelerate payments.

If the student borrower leaves the School prior to graduation, the interest on his loan shall begin to accrue on the date of his separation from the School.

Applications for loans should be made to the Chairman of the Committee on Financial Aid.

Medical School

Frank W. and Carl S. Adams Memorial Loan Fund (1955). Established by the Charles E. and Caroline J. Adams Trust as a revolving loan fund.

Dexter Fund (1963). An anonymous gift to provide loans for any qualified student engaged in studies under the academic jurisdiction of the Faculty of Medicine.

David L. Edsall Revolving Loan Fund (1928). Dr. Frederick C. Shattuck established this fund by gift of $100,000 to be used as a revolving loan fund.

Charles William Eliot Loan Fund (1924). Given anonymously in honor of President Eliot. Principal and interest to be used for loans to students in the Medical School.

Harvard Medical School Loan (1954).

Harvard War Loan (1920).

Health Professions Student Loan Fund. Department of

Health, Education and Welfare (Public Health Service) under the Health Professions Educational Assistance Act.

Harriet P. Keith Loan (1921).

George B. and Louise Kerper Fund (1956). Established by Edmund Kerper as a revolving loan fund in memory of George B. and Louise Kerper.

Dr. Hilman O. Koefod (1968). Joseph Halle Schaffner, Friends and Family of Dr. Koefod.

Rosalind W. Levine (1967). Estate of Samuel A. Levine. Loans to needy and worthy students, preferably women.

George W. Merck Memorial Fund (1959). Established by the Merck Company Foundation as a revolving loan fund to assist fourth year students in financing their internships.

Francis I. Proctor Aid Fund (1942).

James Henry Rand Fund (1962). Public Health Foundation for Cancer and Blood Pressure Research, Inc. To provide scholarships, loans, or other kinds of beneficial aid for any student who has received his M.D. degree at the Harvard Medical School.

Beneficiary and Loan Funds Available in Other Departments of the University as well as in the Medical School

Beneficiary Funds

*Charles William Eliot Fund (1926). Established by the alumni in honor of Charles William Eliot on the occasion of Mr. Eliot's resignation as President and in recognition of his forty years of service. The income is to be divided between (a) grants of aid to descendants in the direct line of Mr. Eliot who need financial assistance and who are enrolled in any department of the University or in Radcliffe College, and (b) the support of instruction and research in Landscape Architecture.

LOAN FUNDS

*Calvin and Lucy Ellis Aid (1899). Bequest of Calvin Ellis, A.B. 1846, M.D. 1849, supplemented by a residuary bequest under the will of his sister, Miss Lucy Ellis. To pay the fees of tuition and instruction, the cost of text-books, room-rent and reasonable board, of such descendants of David Ellis and Beulah Newell, formerly of Dedham, Mass. and John Ellis and Hannah Ellis, formerly of Walpole, Mass., as may be students in any department of Harvard University. Birth certificate and proof of descent from Ellis family required.

Harrison-Darling-Jenks Memorial Fund (1935). Bequest of Miss Laura Darling Jenks. For aiding students in attaining an education at Harvard University. Income assigned to the College Admission and Scholarship Committee.

Loan Funds

The following Loan Funds are to be used for students in any department of the University. Students apply through their own Deans. Loans are made according to the terms ordinarily applied by the individual Schools. Applications may be obtained from the several Deans' Offices or from the General Scholarship Office, 906 Holyoke Center, Cambridge.

*John W. Appel Loan Fund (1919). Restricted to descendants of John W. Appel of Lancaster, Pennsylvania, or their appointees.

Frank Gaylord Cook Loan Fund (1951).

*The Harvard Club of Washington, D.C., Loan Fund (1957). Preference for students resident in the Washington, D.C. area.

*David L. Krupsaw Revolving Loan Fund (1960). Preference to students from Washington, D.C.

Morris Morgenstern Student Loan Fund (1959).

*New Century Club of Boston Loan Fund (1926). Preferably for men pursuing courses of study in Hebraic literature, culture and philosophy.

Jessie Smith Noyes Foundation, Inc. Loan Fund (1960). To establish a revolving loan fund.

Nelson Robinson, Jr. Loan Fund (1941).

James G. Rodger Loan Fund (1883).

Williams Fund (1942).

FELLOWSHIPS

The Fellowship Funds of the Harvard Medical School are, except where otherwise noted, administered by a Standing Committee of the Faculty. Applications for support from these funds should be sent to the Dean's Office.

Edward Hickling Bradford (1918). Anonymous. To be used for medical research or instruction separately or in connection with any other foundation, in such manner as may be prescribed.

Bullard (1891). William Story Bullard, in memory of three physicians "distinguished for their honorable personal character and their professional services in this community":

George Cheyne Shattuck Memorial

John Ware Memorial

Charles Eliot Ware Memorial

Any one or all of these fellowships may be paid to any student or member of the medical profession appointed to make such original investigations in Medical Science as will be most useful to the profession and to the community. The results of these investigations shall not, however, be published as a research performed under the grant of a Bullard Fellowship, unless the work shall have received the approval of the Committee.

Holders of the fellowships must do throughout the academic year the equivalent of at least ten hours' work a week and make a report thereon.

Arthur Tracy Cabot (1913). Dr. and Mrs. Frederick Cheever Shattuck. In memory of Arthur Tracy Cabot, A.B. 1872, M.D. 1876. For students of surgery. Ordinarily the incumbent may not engage in active practice, but is to devote himself to the advancement of surgery in the United States or elsewhere. Nomination to this fellowship is by preference to be made by the Moseley Professor of Surgery.

Walter Bradford Cannon (1945). Mr. Joseph F. and Mrs. Clara Ford. A fellowship in Physiology.

Henry A. and Camillus Christian (1956). Henry A. Christian. To be appointed by the Hersey Professor of the Theory and Practice of Physic. The fellowship shall be held preferably by the same individual for a period of five years. The greater part of his time shall be devoted to medical investigation, preferably in the field of clinical medicine.

Harold C. Ernst Memorial Fund (1938). Mrs. Ellen L. Ernst. A scholarship or fellowship in the Department of Bacteriology.

Charles Follen Folsom (1908). Founded by more than sixty persons in memory of Charles Follen Folsom, A.B. 1862, M.D. 1870. A Teaching Fellowship in Hygiene or in Mental and Nervous Diseases. For the present assigned to the Department of Neuropathology-Neurology.

Louis W. Gilbert (1943). S. Louise Gilbert. Income to be used for the study of chronic diseases.

Samuel Jordan Graham (1961). E. Norma P. Graham. Fellowship in surgery.

Judge and Mrs. Samuel Jordan Graham Memorial (1961). E. Norma P. Graham. Postgraduate study or research.

Charles Dustin Hunking, M.D. (1948). Sarah S. H. Cheney, in memory of her brother, Charles Dustin Hunking, M.D., a member of the Class of 1871 of Harvard University and of the Class of 1876 of Harvard Medical School. To enable a graduate of

Harvard Medical School, who is also a native of Haverhill, Mass., to do medical research.

Louis E. Kirstein (1937). Friends of Louis E. Kirstein. For the promotion of scientific medical education.

John R. Kissinger (1911). Harold C. Ernst. For a fellowship or salary of an individual engaged in the investigation of the causation of infectious diseases, preferably in the direction of tropical medicine. Recommendation to this fellowship is made by the Professor of Bacteriology in the Medical School.

William O. Moseley, Jr., Travelling Fellowships (1912). The bequest of Julia M. Moseley makes available fellowship funds to graduates of the Harvard Medical School for postdoctoral study in Europe. The Committee, anxious that these fellowships be outstanding awards, has voted that the amounts awarded for stipend and travelling expenses will be determined by the specific needs of the individual. In considering candidates for the Moseley Travelling Fellowships, the Committee will give preference to those Harvard Medical School graduates who (1) have already demonstrated their ability to make original contributions to knowledge, (2) have planned a program of study which in the Committee's opinion will contribute significantly to their development as teachers and scholars, and (3) clearly plan to devote themselves to careers in academic medicine and the medical sciences. Individuals who have already attained Faculty rank at Harvard or elsewhere will not ordinarily be considered eligible for these awards.

Application forms may be obtained from, and completed applications should be sent to: Secretary, Committee on Fellowships in the Medical School, Harvard Medical School, 25 Shattuck Street Boston, Massachusetts 02115. The Committee may request candidates to present themselves for personal interviews.

Francis Weld Peabody Memorial (1929). To be awarded on the recommendation of the Dean and full professors of Medicine in charge of the clinics of the Boston City Hospital, the

Massachusetts General Hospital, and the Peter Bent Brigham Hospital, to properly qualified graduates of medical schools to enable them to devote further time to intensive clinical and laboratory studies.

Jeffrey Richardson (1933). William Lambert Richardson, A.B. 1864, M.D. 1867. To be awarded each year to some deserving student, upon his graduation from the Harvard Medical School, who desires to continue his studies either here or abroad.

Henry P. Walcott (1910). Dr. Frederick Cheever Shattuck. For a Fellow in Clinical Medicine appointed on nomination by the Jackson Professor of Clinical Medicine. The recipient shall not engage in private practice but must devote his time to teaching and clinical research.

Ethel DuPont Warren (1967). For psychiatric training scholarships, the recipients to be selected by the Chairman of the Department of Psychiatry.

Whitman (1933). Mrs. Bernard C. Whitman, in memory of her husband Bernard C. Whitman, A.B. 1846, and of her son Crosby C. Whitman, A.B. 1886. Available for a graduate of Harvard Medical School pursuing the study of medicine or surgery at the École de Médecine de Paris.

Wyman Whittemore (1963). Francis Lee Whittemore. Scholarships in surgery.

George Bernays Wislocki (1957). The family and friends of Dr. Wislocki. For one or more graduates or medical students who show unusual promise in some area of the basic medical sciences.

William Hunter Workman (1925). William Hunter Workman, M.D. 1873. To enable one or more graduates of the Harvard Medical School to pursue postgraduate studies in medicine in this country or abroad. In exceptional cases, fourth year students will be eligible.

RESEARCH FUNDS

Application for support of investigations falling within the scope of any of the following research funds should be sent to the Chairman of the Committee or to the Dean.

Rear Admiral W. L. Capps Fund

In 1949 a bequest was received from Edna Ward Capps to be known as the Rear Admiral W. L. Capps Fund, the income from which, under certain circumstances, to be used broadly for the cure and treatment of persons afflicted with diabetes. George W. Thorn, M.D., is Chairman of the Committee administering the income from this fund.

Proctor Fund

A bequest of fifty thousand dollars by Ellen Osborne Proctor, for the purpose of promoting the study of chronic diseases, subsequently has been increased by an additional fifty thousand dollars from another member of the Proctor family. The income of this fund is to be devoted to investigations into the nature and treatment of chronic diseases and the care of persons afflicted with these diseases while in hospitals for such investigations. Arthur T. Hertig, M.D., is Chairman of the Committee administering the income from this fund.

William W. Wellington Fund

In 1925 a bequest was received from William H. Wellington to establish the "William W. Wellington Memorial Research Fund." The income of this fund is to be applied for research concerning the etiology and therapeutics of the diseases of man. Arthur T. Hertig, M.D., is Chairman of the Committee administering the income from this fund.

THE CANCER COMMISSION OF HARVARD UNIVERSITY

Under the will of the late Mrs. Caroline Brewer Croft a sum of money was received in 1899 for the investigation of the cause and treatment of cancer. Since that time other sums have been contributed for cancer research and the Cancer Commission of Harvard University was organized.

The Commission supports the Huntington Hospital beds, outpatient department, and cancer research laboratories at the Massachusetts General Hospital. It provides a service for pathological diagnosis of tumor tissue for the State of Massachusetts. This service was transferred in 1951 from the buildings of the Harvard Medical School to the Cancer Research Institute of the New England Deaconess Hospital. The service is carried on in part in a special laboratory at the Lemuel Shattuck Hospital, in part in laboratories at the Cancer Research Institute of the New England Deaconess Hospital.

The functions of the Cancer Commission are exercised by the Committee on Research and Development which is made up of the following members: Nathan Marsh Pusey, *Chairman*; Harvey Brooks, Robert Higgins Ebert, Franklin Lewis Ford, Paul Goldhaber, James Robbins Reynolds, Theodore Ryland Sizer, John Crayton Snyder, Lewis Gard Wiggins, Henry Coe Meadow, *Executive Secretary*.

PRIZES

Medical School

Isaac Adler (1934). Frida Adler. To be awarded once in three years for the best piece of original research within that period in the United States or Canada on any subject within the medical or allied sciences.

Borden Undergraduate Research Award. Awarded to a member of the graduating class who, during any year while

enrolled in the School, has carried out undergraduate research having originality and thoroughness.

Harvard Medical Alumni Association Prize. To be awarded each year to the Permanent President of the Graduating Class. It has three purposes: to extend a greeting from the old Alumni to the new, to accord respect to the graduating class by honoring its chosen leader, to select for honor a man with whom long and cordial association is confidently anticipated.

Richard C. Cabot Prize. Established in 1968 this prize is awarded for a paper on "medical education or medical history, preferably of persons or incidents of the Twentieth Century." Typewritten papers must be submitted to the Dean's Office by April 1.

Henry Asbury Christian (1937). Dr. Samuel A. Levine. To be awarded annually on or about the seventeenth of February, which is Dr. Christian's birthday, to the student in the Fourth Year Class who has displayed diligence and notable scholarship in his studies and offers promise for the future.

Leon Reznick Memorial Prize (1958). To be awarded to a fourth year student who has shown excellence and accomplishment in research conducted during his period of study at the Harvard Medical School. Candidates for the award must submit a typewritten paper to the Dean's Office by April 1.

Rose Seegal Prize. This prize, established in 1968, is awarded for a paper on the "relation of the medical profession to the community." Typewritten papers must be submitted to the Dean's Office by April 1.

James Tolbert Shipley Prize (1952). Harriet S. Parker. Awarded as a prize for research carried out by a medical student, the results of which have been published or accepted for publication. Candidates for the award must submit papers to the Dean's Office by April 1.

Soma Weiss Award. Awarded each year at the Undergraduate Assembly (see page 94).

LECTURESHIPS

John Adams Lectureship on Dermatology. The income of the fund to be expended in support of one or more lectures in dermatology in any given academic year.

The Edward K. Dunham Lectures for the promotion of the medical sciences have been given annually since 1923 by eminent investigators and teachers in one of the branches of the medical sciences or of the basic sciences which contribute toward the advance of medical science in the broadest sense. The lectures are open to the Faculty and students of the Harvard Medical School and College and all other interested professional persons. The lectures are given under the fund established for that purpose by Mary Dows Dunham in memory of her husband, Dr. Edward K. Dunham.

Laurence B. Ellis Lecture. Established by the students, associates, and friends of Dr. Ellis. To invite annually a visiting lecturer of distinction in the general field of cardiovascular physiology and disease to visit the Harvard Medical Unit at Boston City Hospital and to give a lecture during this visit to be open to the public.

The George W. Gay Lectures upon Medical Ethics are given annually at the Harvard Medical School. The fund for the establishment of these lectures was given in 1917 by Dr. George W. Gay.

Donald Macomber (1965). Established by Dr. Donald Macomber to provide lectures to undergraduate students in the Department of Obstetrics and Gynecology on subjects of sexuality in the field of human reproduction and reproductive biology, with particular emphasis on the social, psychological and marital aspects thereof.

The J. Howard Mueller Lectures are given annually at the Harvard Medical School. The fund for the establishment of these lectures was established in 1958 to honor the late J. Howard Mueller, Charles Wilder Professor of Bacteriology and Immunology.

The Alpha Omega Lecturer is to be nominated each year by the Alpha Omega Alpha Society. The honorarium and expenses of the lectureship to be supported from the fund established by the Society in 1952.

The Hanns Sachs Lectures in the field of Freudian psychoanalysis are supported by a gift in memory of Dr. Sachs. One or more may be given in any year.

The Dr. Andrew Yeomans Lectureship Fund has been established by members of the Class of 1934 and the Class of 1935 and friends in memory of Dr. Yeomans. Lectures are to be given annually and the lecturer will be chosen from young clinicians in the fields of clinical research by a committee named by the donors.

THE UNDERGRADUATE ASSEMBLY

The Undergraduate Assembly, held late in the spring of each year under student auspices, provides an opportunity for students from all classes to present formally the results of their investigations to the students and Faculty of the Medical School. The Soma Weiss Award is made at this meeting.

GENERAL PLAN OF INSTRUCTION

On the following pages will be found a brief description of the plan of instruction for the four years of Medical School, followed by a statement of the general plan of instruction offered by each Department. A diagrammatic summary of the medical curriculum will be found on pages 102 and 103.

General Plan of the First Two Years

First Year

Two plans of instruction are described below. The first applies only to the Class of 1971 and represents the old program. This is being replaced for all students starting with the Class of 1972 by the second program.

In the first year, the first semester of the old program was devoted to a study of histology, cytology and developmental anatomy, and to the fundamentals of physiology and biological chemistry. Gross human anatomy was presented in the second semester together with a course in neurosciences and an area of interdepartmental teaching dealing with the histology, physiology and biochemistry of the gastrointestinal tract and endocrine glands. Voluntary clinics illustrated the application of the basic medical sciences to understanding of disease in man. In the second semester there was a brief series of lectures introducing certain aspects of normal psychological growth and development. The students also took a course either in basic biostatistics or more advanced biomathematics depending upon their previous preparation.

In September 1968, the first year of a new curriculum was inaugurated. Following an orientation week, the first semester began with Cellular and Molecular Biology. The aim of the first semester is to provide the entering student with an introduction to the scientific basis of medicine. Subjects previously taught over the first one and a half years are presented in a "core" curriculum during the first semester; the subject matter reduced to those essentials the Faculty thinks every medical student should know. There is abundant opportunity and time to expand on this material during subsequent required and elective courses. Considerable "free time" has been included in each week to allow the student opportunity to pursue his own studies. Clinics are scheduled frequently, during the teaching of Biochemistry, Histology, Embryology, Bacteriology and Immunology, Pharmacology, Physiology, and Biostatistics to illustrate the clinical relevance of

these subjects. In addition a weekly seminar and field experience provides an introduction to the increasingly important role of the behavioral sciences in medicine.

The course in Human Biology covers a full year and is designed to extend the student's knowledge of the scientific basis of medicine from the level of the cell to that of the tissues, the organs and the organism as a whole. It represents a coordinated teaching effort on the part of the various preclinical and clinical departments and includes large segments of material originally taught as parts of separate courses in histology and embryology, physiology, pathology, pharmacology and pathophysiology. The course presents a survey of the structure and function of the different organ systems in health and disease, building upon the basic material introduced in the first semester. In the case of each system, both the normal anatomy and physiology and the pathology and pathophysiology of the various disease states are introduced in a common context permitting the study of the normal to acquire increased relevance by being presented in conjunction with the study of disease. A special effort is also made to provide close correlation between structural and functional changes in disease and to provide, whenever possible, an understanding of the ways in which these changes become manifest at the clinical level. In order to further this effort, extensive use is made of clinical and patient-oriented laboratory exercises and conferences.

The course is divided into three sections with Human Biology I occupying the second semester of the first year. This portion is introduced by a section on Growth (3 weeks) which includes aspects of human genetics, embryologic development, normal and abnormal cellular growth and differentiation, neoplasia and radiation biology. During this period of transition from cell to organ biology, the student also begins the study of Gross Anatomy which continues throughout the semester. The section on Growth is followed by sections on Heart and Circulation (5 weeks), Respiration (2½ weeks), Renal (2½ weeks) and Epidermal and Supporting Tissues (3 weeks). Each of these sub-

jects is taught by multidepartmental groups of teachers permitting discussion of subject material from several points of view. This approach not only permits the student to appreciate the contribution of the various disciplines to the study of disease in man, but also enables him to benefit from the special knowledge and skills that each brings to bear on scientific and clinical problems. A series of lectures on Behavioral Science — now concerned with psychopathology — are also given during this semester.

Human Biology II occupies a six and one half week period from early June through the middle of July, and deals in an integrated fashion with the organization and function of the human nervous system in health and disease. The essential framework of the course is a survey of the anatomical arrangement of the major nuclear groups and tracts of the human spinal cord and brain, presented by members of the Department of Anatomy. Selected topics in neurophysiology, ranging from basic synaptic properties, through peripheral and central motor mechanisms, central visual and somatosensory functions, to complex normal activities such as sleep and the use of language, are presented by members of the Department of Neurobiology, supplemented with contributions from the Departments of Neurology and Psychiatry. Since our present knowledge of the organization of the human nervous system has come largely from the study of disease, and since the fundamental aim of the core curriculum is to provide a basis for clinical training, members of the Department of Neurology and Neuropathology survey the major categories of pathological processes affecting the nervous system, emphasizing the correlation of anatomical locus with physiological expression of disease. Members of the Department of Pharmacology present those principles of pharmacology, illustrated by agents affecting the nervous system. Their major emphasis is given to anesthesia, analgesia, and behavioral pharmacology. Numerous laboratory sessions, conferences, and clinics supplement the lectures throughout the course.

Human Biology III, which will occupy the fall semester of 1969, will include sections on Hematology, the Gastrointestinal

System, Infection, and the Endocrine-Reproductive System. New blocks, such as that on Infection, will allow medical bacteriology, immunology, epidemiology, and parasitology to be drawn together and presented in a coordinated relevant manner. Practical instruction in the taking of case histories and physical examinations, will be given during this semester.

Second Year

In the first semester of the second year of the old program, the Departments of Bacteriology, Pathology and Pharmacology offer courses in their respective disciplines. A number of correlated interdepartmental exercises are also included. The last portion of the semester is devoted to chemotherapy taught jointly by the Departments of Bacteriology and Pharmacology.

During the second semester a correlated program in pathologic physiology is given. Mechanisms of disease are presented in a unified course by members of the Departments of Medicine, Neurology, Obstetrics and Gynecology, Pathology, Pediatrics, Pharmacology, Preventive Medicine, Psychiatry, Radiology, Surgery, and Tropical Public Health. In addition, practical instruction in the taking of case histories and physical examinations is given on the wards and in the outpatient departments of the hospitals at which there are Harvard teaching units.

During the second year, in addition to instruction in certain aspects of genetics, a series of lectures develops further concepts of individual psychologic functioning. Emphasis now shifts to the nature and genesis of abnormal psychological mechanisms which result from both social and physical factors and are manifested in symptoms and behavioral disturbances.

General Plan of the Third and Fourth Years

The instruction in the third and fourth years is carried on at the teaching hospitals affiliated with the Medical School. It is designed to teach the student to apply the principles of normal and abnormal human biology, acquired in the first two years, to the diagnosis and treatment of disease.

The program of instruction is divided into three parts which form a continuum extending from September of the third year to the end of May of the fourth year. Periods of vacation, the longest three weeks, are interspersed at intervals.

The first part consists of a three month course called the Introduction to the Clinic, the aim of which is to bring the student to a higher level of clinical competence than is possible to achieve in the second semester of the second year. Each student is assigned to one of four general hospital areas — Beth Israel Hospital, Boston City Hospital, Massachusetts General Hospital, and Peter Bent Brigham Hospital — for theoretical and practical instruction in the evaluation of patients. Time is approximately evenly divided between medicine, surgery, and the various medical specialities. This phase of the instruction is conducted six mornings and one afternoon each week in small groups on the wards and in the outpatient departments. Two other afternoons each week are devoted to a course in aseptic technique and special lectures and exercises covering a variety of topics.

The second part of the program, consisting entirely of clinical clerkships, is called the Principal Clinical Year. This year is divided into four twelve-week periods as follows: one twelve-week period is devoted to Medicine; another to Surgery; one is divided equally between Pediatrics (six weeks) and Obstetrics and Gynecology (six weeks); while the fourth is divided into four three-week sections devoted respectively to Psychiatry, Neurology, Orthopedics, and the three specialities of Dermatology, Ophthalmology, and Otolaryngology.

The third and final part, comprising the last five months of the four years of instruction, is given over to elective programs. From the wide variety of elective courses and other instructional opportunities offered by the several departments of the Medical School, each student, with the aid of a faculty advisor, is expected to select a program of work which will allow him to explore some area of interest to him. Generally, elective courses are of two types: "block" courses, lasting one or more months, which presuppose that the student will devote the major portion of his

time to the course, and "longitudinal" courses meeting for one to three hours, one to three times per week, for varying numbers of weeks. While ordinarily instruction during the elective period is confined to the Medical School and its affiliated hospitals, relevant courses in other parts of the University and at other institutions, in this country and abroad, may be included.

The Tutorial Program and Student Research

The Tutorial Program was established in 1923 to foster student interest and participation in research. In 1957 it was expanded to provide each entering student with a tutor for his first year. Some twenty-five Tutors in Medical Sciences are appointed annually to enable first year students to meet informally in groups of five with a tutor. These weekly meetings are intended to assist the student in organizing and correlating his knowledge and to point out the implications and applications of the knowledge of basic science gained in the formal courses to clinical medicine and to research. These are not intended to be review sessions or to prepare students for examinations in the formal courses, but to develop better understanding of the medical sciences as a whole and of medicine as an art and profession. In addition the expanded Tutorial System provides an opportunity for each student during his first year to become well acquainted with some member of the Faculty to whom he may turn for advice in planning his medical career and in other matters.

The Honors Tutorial Program of the second, third and fourth years is designed to aid students who wish to undertake original research in one of the medical sciences during their medical school careers and to provide informal courses and discussion groups in a variety of subjects not included in the formal curriculum. Students doing research, or planning to do research, are assigned to the appropriate Tutor for guidance. Each of these Tutors has special competence in one of the medical sciences and meets with students individually or in small groups to assist them in deciding on a field of research or in formulating a specific research problem. The Tutors may also organize sem-

inars and symposia to review some aspect of the field of special interest. They also help the student by placing him with the member of the Faculty whose research interests are in his field and who is best suited to guide his research.

Students may devote free time during the school year and the summer months to research. Exceptional students also have the opportunity of taking a year's leave of absence to pursue a research problem. Such an opportunity is made available to enhance a student's preparation for an investigative career in medicine and in the medical sciences. The results of a student's research may be presented as a thesis at the end of the fourth year in support of his candidacy for the medical degree with Honors in a Special Field.

Fellowships are available for the financial support of student research both during the summer months and during a year's leave of absence for full time research.

Abbreviations used in the following pages:

B.I.H. = Beth Israel Hospital.
B.C.H. = Boston City Hospital.
B.H.W. (L-i. Div.) = Boston Hospital for Women (Lying-in Division).
B.H.W. (Pky. Div.) = Boston Hospital for Women (Parkway Division).
C.C.H. = Cambridge City Hospital.
C.H.M.C. = The Children's Hospital Medical Center.
C.M.C. = Children's Medical Center.
F.H.W. = Free Hospital for Women.
H.M.S. = Harvard Medical School.
L.I.H. = Long Island Hospital.
McL.H. = McLean Hospital.
M.E.E.I. = Massachusetts Eye and Ear Infirmary.
M.G.H. = Massachusetts General Hospital.
M.I.T. = Massachusetts Institute of Technology.
M.M.H.C. = Massachusetts Mental Health Center.
Mt.A.H. = Mount Auburn Hospital.
N.E.C.H. = New England Center Hospital.
N.E.D.H. = New England Deaconess Hospital.
P.B.B.H. = Peter Bent Brigham Hospital.
R.B.B.H. = Robert B. Brigham Hospital.
S.D.M. = School of Dental Medicine.
S.P.H. = School of Public Health.
W.R.V.A.H. = West Roxbury Veterans Administration Hospital.

Plan of Instruction

First Year ‡

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.
	CELLULAR BIOCHEMISTRY CIRCULATORY PHYSIOLOGY GENERAL HISTOLOGY AND CYTOLOGY				GROSS ANATOMY GASTROINTESTINAL AND ENDOCRINE SYSTEMS BIOSTATISTICS			NEURO-SCIENCES PSYCHIC GR. & DEV.		Vacation RESEARCH VOLUNTARY WORK		

Correlated Clinics are offered on Saturday mornings throughout the first year.

Second Year

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.
Vacation	BACTERIOLOGY PATHOLOGY PHARMACOLOGY GENETICS			PARASITOLOGY	PATHOPHYSIOLOGY EXAMINATION OF THE PATIENT					Vacation RESEARCH VOLUNTARY WORK	

‡ Replaced by new program 1968–69.

PLAN OF INSTRUCTION

Third and Fourth Years

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.
VACATION	Introduction to the Clinic			Principal Clinical Year medicine* (12 weeks)°		VACATION	Principal Clinical Year surgery* (12 weeks)°		Principal Clinical Year pediatrics* (6 weeks)° obstetrics and gynecology* (6 weeks)°		VACATION
VACATION	Principal Clinical Year derm. ophth. otol.* (3 wks.)° psych.* (3 wks.)° neur.* (3 wks.)° orth. surg.* (3 wks.)°		READING PERIOD	Elective Period				EXAMS			
Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.

Recess.

* Order of subjects variable.

° One afternoon per week is devoted to whole class exercises which include Legal Medicine (13 sessions) and Preventive Medicine (34 sessions).

Division of Hours

FIRST YEAR (new program)

Orientation	20
Cellular and Molecular Biology	
Cellular Biochemistry	101
Behavioral Science	61
Biostatistics	12
Bacteriology	22
Correlation Clinics	28
Embryology	1
Histology	74
Immunology	6
Pathology	48
Pharmacology	10
Physiology	13
‡ Human Biology I	
Growth	50
Circulation	83

SECOND YEAR

Bacteriology	168
Pathology (including Parasitology and Neuropathology)	350
Pharmacology	120
Pathologic Physiology †	538
Growth and Development:	
Genetics	15
Introduction to Psychopathology	28
Pediatrics	4
Obstetrics and Gynecology	18

THIRD AND FOURTH YEARS

Introduction to the Clinic (12 weeks)	
Medicine	121
Surgery	121
Specialties (including Pediatrics, Psychiatry, Neurology, Dermatology, Ophthalmology, Otolaryngology, Aseptic Technique)	121
Principal Clinical Year (48 weeks)	
*Medicine	480
*Surgery	480
*Obstetrics and	
Principal Clinical Year (con't)	
*Pediatrics	240
*Neurology	120
*Orthopedics	120
*Psychiatry	120
*Dermatology	40
*Ophthalmology	40
*Otolaryngology	40
Preventive Medicine	
Course	70
Survey	50
Legal Medicine	14
Elective Period (22 weeks)	946

Respiration . .	48		Gynecology . 240
Renal	46		
Epidermal and Supporting Tissues . . .	56		
Gross Anatomy .	154		
Behavioral Science . . .	12		
‡ Human Biology II	118		

‡ A multidepartmental integrated course.

† A multidepartmental integrated course which includes Examination of the Patient (Medicine and Surgery) and Laboratory Diagnosis.

* Clerkships.

ANNOUNCEMENT OF COURSES

Department of Anatomy

Don W. Fawcett, M.D., Hersey Professor of Anatomy, James Stillman Professor of Comparative Anatomy, Head of the Department, and Curator of the Warren Anatomical Museum.

Edward A. Edwards, M.D., Clinical Professor of Anatomy.

Sanford L. Palay, M.D., A.M. (hon.), Bullard Professor of Neuroanatomy.

George H. Paff, Ph.D., Visiting Professor of Anatomy (from January 1, 1969 through February 28, 1969).

Elizabeth D. Hay, M.D., A.M. (hon.), Louise Foote Pfeiffer Associate Professor of Embryology.

Susumu Ito, Ph.D., A.M. (hon.), Associate Professor of Anatomy.

Charles P. Lyman, Ph.D., Associate Clinical Professor of Anatomy.

Jean-Paul Revel, Ph.D., Associate Professor of Anatomy.

David T. Armstrong, Ph.D., Assistant Professor of Anatomy (resigned October 31, 1968).

Richard E. Coggeshall, M.D., Assistant Professor of Anatomy.

Donald K. Morest, M.D., Assistant Professor of Anatomy.

George Szabo, Ph.D., Assistant Professor of Anatomy in the Department of Dermatology.

David W. Hamilton, Ph.D., Associate in Anatomy.

Sergei P. Sorokin, M.D., Associate in Anatomy.

Elizabeth Taber-Pierce, Ph.D., Associate in Anatomy.

Merrill K. Wolf, M.D., Associate in Anatomy.

Raymond B. Wuerker, M.D., Associate in Anatomy.

Roy O. Greep, Ph.D., A.M. (hon.), S.D. (hon.), Member of the Department of Anatomy, and Director of the Laboratory of Human Reproduction and Reproductive Biology.

Aziza H. S. Fam, M.D., Visiting Lecturer on Anatomy (from February 1, 1969).

Benjamin Kaminer, M.B.,Ch.B., Visiting Lecturer on Anatomy (from January 1, 1969).

W. Jann Brown, M.D., Research Associate in Anatomy.

Reinhold R. Hofmann, D.V.M., Research Associate in Anatomy (from February 1, 1969).

Gordon J. MacDonald, Ph.D., Research Associate in Anatomy.

Koji Yoshinaga, Ph.D., Research Associate in Anatomy (from February 1, 1969).

Donald Orlic, Ph.D., Instructor in Anatomy.

Winston A. Anderson, Ph.D., Research Fellow in Anatomy (from September 1, 1968).

Harold R. Behrman, Ph.D., Research Fellow in Anatomy.

Jost D. Brokelman, M.D., Research Fellow in Anatomy (through September 30, 1968).

James W. Dodson, Ph.D., Research Fellow in Anatomy (from February 1, 1969).

Edward M. Eddy, Ph.D., Research Fellow in Anatomy.

Cecilie A. Goodrich, Ph.D., Research Fellow in Anatomy (from September 15, 1968).

Paul McC. Heidger, Jr., Ph.D., Research Fellow in Anatomy.

James E. Hixon, Ph.D., Research Fellow in Anatomy.

Philippus J. Hoedemaeker, M.D., Research Fellow in Anatomy (from September 1, 1968).

Arvi I. Kahri, M.D., Research Fellow in Anatomy.

Paul L. Keyes, Ph.D., Research Fellow in Anatomy (resigned September 30, 1968).

Oliver E. Millhouse, Ph.D., Research Fellow in Anatomy.

David M. Phillips, Ph.D., Research Fellow in Anatomy (through August 31, 1968).

Bela E. Piacsek, Ph.D., Research Fellow in Anatomy (resigned August 31, 1968).

Geoffrey Raisman, M.B.,Ch.B., Research Fellow in Anatomy (from August 15, 1968).

Sonia Rude, Ph.D., Research Fellow in Anatomy (from September 1, 1968).

Diane E. Smith, Ph.D., Research Fellow in Anatomy (from October 1, 1968).

Peter Sterling, Ph.D., Research Fellow in Anatomy (from October 1, 1968).

Robert E. Waterman, Ph.D., Research Fellow in Anatomy.

Nelson P. Westmoreland, Ph.D., Research Fellow in Anatomy (from September 1, 1968).

The Department of Anatomy offers instruction in gross human anatomy, histology and cytology, embryology, and neuroanatomy. Opportunities are also afforded for advanced work and research in these subjects. The Department occupies the Morgan Anatomical Building in the first three floors of the wing designated as B1, and the first two floors of B2. This space includes offices and research laboratories of the staff, rooms for graduate students and fellows, seminar rooms, a photographic department and laboratories devoted to cytochemistry, tissue culture, and electron microscopy.

There is a large departmental library containing complete files of the important journals in the fields of anatomy, developmental biology, and experimental cytology, together with many standard textbooks and works of reference. The library is open to staff, students and others, on a non-circulating basis.

The Minot Embryological Collection is a unique feature of the laboratory. It comprises approximately twenty-three hundred series of sections of selected vertebrate embryos representing a wide range of species and therefore affords opportunities for research in comparative embryology such as cannot be found elsewhere.

The Department also has valuable neurological material for both teaching and research, including two entire human brains cut serially in the transverse and horizontal planes, with the sections alternately stained by the Pal-Weigert and Nissl methods.

Required Courses

Anatomy. *First Year* (*new program*). — There are no required courses in anatomy as such. Selected topics in cytology and histology

are included in the required course called Cell Biology in the first semester. An introduction to gross human anatomy and neuroanatomy are offered in the required integrated course in the second semester called Human Biology.

In the study of gross anatomy, groups of four students carry out a cursory dissection of the human body intended to familiarize them with the descriptive terminology and topographical relations of the organs and with certain principles of organization of the circulatory, nervous, and musculoskeletal systems. There are lectures and demonstrations which serve to emphasize the clinical applications of a knowledge of gross anatomy. Special dissections, specimens and ciné-prosections are displayed to supplement the students' own dissections.

Histology is no longer offered to medical students as a separate course. However, certain elements of microscopic anatomy are incorporated in the integrated course in Cell Biology offered in the first semester. This instruction is intended to give the student some familiarity with the normal structure of cells and certain of the tissues as they appear with the light microscope and with their finer structure as revealed by electron microscopy.

The histology of several organ systems not covered in the first semester is presented in the various blocks in the Human Biology course of the second semester of the first year and the first semester of the second year.

A few lectures in embryology are offered in the Growth Block of the integrated Human Biology course in the second semester of the first year.

Neuroanatomical instruction is given as part of a block of correlative teaching called Neurosciences in the second semester of the first year.

FIRST YEAR

Lectures. Drs. Fawcett, Palay, Edwards, Hay, Szabo, Ito, Revel, Sorokin, Coggeshall, Hamilton and Morest.

Demonstrations. To sections of the class, at the pleasure of the instructors.

Laboratory work.

Fourth Year Elective Courses *

BLOCK COURSES

501. Surgical Anatomy. Dr. EDWARDS and ASSOCIATES. (*Same course as Anatomy 203, Faculty of Arts and Sciences.*)
502. Comparative Vertebrate Physiology. Dr. LYMAN and ASSOCIATES. (*Same course as Anatomy 205, Faculty of Arts and Sciences.*)

LONGITUDINAL COURSES

701. Advanced Cytology. Dr. FAWCETT and ASSOCIATES. (*Same course as Anatomy 206, Faculty of Arts and Sciences.*)
702. Developmental Biology. Dr. HAY and ASSOCIATES. (*Same course as Anatomy 207, Faculty of Arts and Sciences*). Not offered in 1968–1969.
703. Advanced Neurocytology. Dr. PALAY and ASSOCIATES. (*Same course as Anatomy 208, Faculty of Arts and Sciences.*) Not offered in 1968–1969.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Bacteriology and Immunology

Harold Amos, Ph.D., Associate Professor of Bacteriology and Immunology, and Head of the Department.

Bernard D. Davis, M.D., Adele Lehman Professor of Bacterial Physiology.

Albert H. Coons, M.D., Career Investigator of the American Heart Association, and Visiting Professor of Bacteriology and Immunology.

Monroe D. Eaton, M.D., Professor of Bacteriology and Immunology, and Ruby Boyer Miller Fellow in Medical Research.

Luigi Gorini, Ph.D. (Equiv.), A.M. (hon.), American Cancer Society Professor of Bacteriology and Immunology.

Jonathan R. Beckwith, Ph.D., Associate Professor of Bacteriology and Immunology.

Edmund C. C. Lin, Ph.D., Associate Professor of Bacteriology and Immunology (on leave February 1, 1969 through August 31, 1969).

Charles T. Ambrose, M.D., Assistant Professor of Bacteriology and Immunology.

Dan G. Fraenkel, Ph.D., Assistant Professor of Bacteriology and Immunology.

Howard Goldfine, Ph.D., Assistant Professor of Bacteriology and Immunology (resigned August 31, 1968).

Lawrence J. J. Kunz, Ph.D., Assistant Professor of Bacteriology and Immunology at the Massachusetts General Hospital.

Sidney Leskowitz, Ph.D., Assistant Professor of Bacteriology and Immunology at the Massachusetts General Hospital.

Mortimer Litt, M.D., Assistant Professor of Bacteriology and Immunology.

Hiroshi Nikaido, M.D., D.M.Sc., Assistant Professor of Bacteriology and Immunology at the Massachusetts General Hospital.

Barbara Wright, Ph.D., Assistant Professor of Bacteriology and Immunology (part time).

Debajit K. Biswas, Ph.D., Visiting Assistant Professor of Bacteriology and Immunology (from July 15, 1968).

Geronimo Terres, Jr., Ph.D., Visiting Assistant Professor of Bacteriology and Immunology (resigned July 31, 1968).

Michael A. Bratt, Ph.D., Associate in Bacteriology and Immunology.

Janine A. Andre-Schwartz, M.D., Research Associate in Bacteriology and Immunology.

Raquel R. Arditti, Ph.D., Research Associate in Bacteriology and Immunology.

Muthiah D. Daniel, Ph.D., Research Associate in Bacteriology and Immunology.

Juey-shen L. Lin, Ph.D., Research Associate in Bacteriology and Immunology (from November 1, 1968).

Iolanda E. Low, M.D., Research Associate in Bacteriology and Immunology.

Luis V. Melendez, D.V.M., Research Associate in Bacteriology and Immunology.

Suyehiko Okamoto, M.D., D.M.Sc., Research Associate in Bacterial Physiology (from September 1, 1968).

Micheline M. Roth, M.D., Research Associate in Bacteriology and Immunology.

S. Sridhara, Ph.D., Research Associate in Bacteriology and Immunology (through January 31, 1969).

Paolo F. G. Strigini, M.D., Research Associate in Bacteriology and Immunology.

Barbara K. Watson, Ph.D., Research Associate in Bacteriology and Immunology.

Alice K. Daly, S.B., Assistant in Bacteriology and Immunology.

Joan B. Daniels, S.B., Assistant in Bacteriology and Immunology.

Alice McDonald, A.B., Assistant in Bacteriology and Immunology.

Ulf S. Bjare, Fil.Lic., Research Fellow in Bacteriology and Immunology.

David H. Buzzee, Ph.D., Research Fellow in Bacteriology and Immunology.

Saroj R. Das, Ph.D., Research Fellow in Bacteriology and Immunology.

Michel A. Horisberger, Ph.D., Research Fellow in Bacteriology and Immunology.

Karin A. Ippen, Ph.D., Research Fellow in Bacteriology and Immunology.

David I. Kurtz, Ph.D., Research Fellow in Bacteriology and Immunology.

Juan B. Modolell, Ph.D., Research Fellow in Bacterial Physiology.

Haruo Momose, D.Agr., Research Fellow in Bacteriology and Immunology (from September 1, 1968).

Shigeru Morikawa, M.D., Research Fellow in Bacteriology and Immunology (from September 1, 1968).

Patrick J. Piggot, Ph.D., Research Fellow in Bacteriology and Immunology (resigned September 30, 1968).

William S. Reznikoff, Ph.D., Research Fellow in Bacteriology and Immunology.

Eliora Z. Ron, Ph.D., Research Fellow in Bacteriology and Immunology (through July 11, 1968).

Joan P. Roscoe, Ph.D., Research Fellow in Bacteriology and Immunology (resigned August 31, 1968).

Roland Rosset, Ph.D., Research Fellow in Bacteriology and Immunology (through July 31, 1968).

Yoshikazu Sanno, M.D., Ph.D., Research Fellow in Bacteriology and Immunology.

James A. Shapiro, Ph.D., Research Fellow in Bacteriology and Immunology (from October 1, 1968).

Dinesh P. Sinha, M.D., Research Fellow in Bacteriology and Immunology (resigned August 15, 1968).

Alapuzha R. Subramanian, Ph.D., Harold C. Ernst Research Fellow in Bacterial Physiology.

Ryosuke Yuasa, M.D., D.M.Sc., Research Fellow in Bacteriology and Immunology (resigned October 31, 1968).

Robert A. Zimmermann, Ph.D., Research Fellow in Bacteriology and Immunology.

Robert J. Beller, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Betty L. Josephson, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Erich B. Konrad, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Christopher S. Matkovic, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Jeffrey H. Miller, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Anthony T. Morrissey, A.B., Teaching Fellow in Bacteriology and Immunology (from September 1, 1968).

Bacterial Physiology Unit

Bernard D. Davis, M.D., Adele Lehman Professor of Bacterial Physiology.

Suyehiko Okamoto, M.D., D.M.Sc., Research Associate in Bacterial Physiology (from September 1, 1968).

Juan B. Modolell, Ph.D., Research Fellow in Bacterial Physiology.

Alapuzha R. Subramanian, Ph.D., Harold C. Ernst Research Fellow in Bacterial Physiology.

Required Course

During the academic year 1968–69, two programs of instruction are in effect. The first year class is participating in a new curriculum, while the second year class is completing the "old" program. In subsequent years the first year course only will be offered.

Bacteriology. *First Year* (*new program*). — Bacterial Physiology, Microbial Genetics and Introduction to Immunology. The Bacteriology Department offers lectures (21–24) and laboratory as part of the Cell Biology Course in the Fall semester of the first year. The block consists of an introduction to bacteria, mycoplasma and viruses, including the structure, physiology, metabolism, and genetics principally of bacteria. The mechanisms of action of the principal anti-

bacterial antibiotics are discussed in some detail. The introduction to immunology is coordinated with the teaching of general pathology at the end of the first semester.

BACTERIOLOGY. *Second Year.* — This course consists of lectures, laboratory exercises, and conferences, designed to acquaint the student with the principles of bacteriology, virology, immunology, allergy, and chemotherapy. The fungi will also be briefly considered.

The first part of the course consists of an introduction to general microbiology, including the structure, physiology, metabolism, and genetics of bacteria and bacteriophage. Attention will then be given to the agents of infectious disease, with emphasis on properties that are useful in their identification and in understanding their pathogenicity. The exercises on host-parasite relations and allergy will be correlated with pathology, while those on chemotherapy will be correlated with pharmacology. Clinics held in various hospitals will introduce the student to infectious disease in man.

While the course is designed primarily as a preparation for later clinical work on infectious disease, considerable attention will also be given to illustrating the use of unicellular organisms in studying problems of cell physiology and molecular biology common to all cells, including those of man.

FIRST YEAR — HOURS

Lectures, laboratory work, and conferences. Dr. Amos and staff. First half-year. 21

SECOND YEAR

Lectures, laboratory work, and conferences. Dr. DAVIS and STAFF. First half-year. Most exercises take place on Monday, Wednesday, and Friday afternoons with conferences on Saturday mornings. 168

Fourth Year Elective Courses *

LONGITUDINAL COURSES

701. Immunology. Drs. COONS, K. F. AUSTEN, BLOCH, ROSEN, and ASSOCIATES. (*Same course as Bacteriology 207, Faculty of Arts and Sciences.*)
702. General Virology. Drs. EATON, CASPAR, BURGE, and ASSOCIATES. (*Same course as Bacteriology 206, Faculty of Arts and Sciences.*)
703. Microbial and Molecular Genetics. Dr. BECKWITH and ASSOCIATES. (*Same course as Bacteriology 208, Faculty of Arts and Sciences.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Biological Chemistry

Elkan R. Blout, Ph.D., A.M. (hon.), Edward S. Harkness Professor of Biological Chemistry, and Chairman of the Department.

Eric G. Ball, Ph.D., S.D. (hon.), A.M. (hon.), Edward S. Wood Professor of Biological Chemistry.

Lewis L. Engel, Ph.D., American Cancer Society Professor of Biological Chemistry.

Jordi Folch-Pi, M.D., A.M. (hon.), Professor of Neurochemistry at the McLean Hospital.

Herman M. Kalckar, M.D., Ph.D., A.M. (hon.), D.Sc. (hon.), Professor of Biological Chemistry at the Massachusetts General Hospital.

Manfred L. Karnovsky, Ph.D., A.M. (hon.), Harold T. White Professor of Biological Chemistry, and Secretary of the Faculty of Medicine (to January 17, 1969).

Eugene P. Kennedy, Ph.D., A.M. (hon.), Hamilton Kuhn Professor of Biological Chemistry.

* Arthur K. Solomon, Ph.D., D.Phil., Professor of Biophysics.

Charles A. Thomas, Jr., Ph.D., Professor of Biological Chemistry.

Bert L. Vallee, M.D., A.M. (hon.), Paul C. Cabot Professor of Biological Chemistry.

Claude A. Villee, Ph.D., A.M. (hon.), Andelot Professor of Biological Chemistry, and Tutor in Biological Chemistry.

Roger W. Jeanloz, D.Sc., A.M. (hon.), Associate Professor of Biological Chemistry at the Massachusetts General Hospital.

W. Eugene Knox, M.D., Associate Professor of Biological Chemistry at the New England Deaconess Hospital.

Charles C. Richardson, M.D., A.M. (hon.), Associate Professor of Biological Chemistry.

Joseph B. Alpers, M.D., Assistant Professor of Biological Chemistry.

* Appointment under The Committee on Medical Research in Biophysics.

John L. Bethune, Ph.D., Assistant Professor of Biological Chemistry.

Mario R. Capecchi, Ph.D., Assistant Professor of Biological Chemistry.

Donald G. Comb, Ph.D., Assistant Professor of Biological Chemistry.

John Gergely, M.D., Ph.D., Assistant Professor of Biological Chemistry (part time).

Dennis C. Gould, Ph.D., Assistant Professor of Biological Chemistry.

Standish C. Hartman, Ph.D., Assistant Professor of Biological Chemistry (resigned August 31, 1968).

George Hauser, Ph.D., Assistant Professor of Biological Chemistry at the McLean Hospital.

Robert L. Jungas, Ph.D., Assistant Professor of Biological Chemistry.

Susan Lowey, Ph.D., Assistant Professor of Biological Chemistry at the Children's Cancer Research Foundation.

Lewis C. Mokrasch, Ph.D., Assistant Professor of Biological Chemistry at the McLean Hospital.

Henry P. Paulus, Ph.D., Assistant Professor of Biological Chemistry.

Sidney V. Rieder, Ph.D., Assistant Professor of Biological Chemistry at the Massachusetts General Hospital.

James F. Riordan, Ph.D., Assistant Professor of Biological Chemistry.

Robert G. Spiro, M.D., Assistant Professor of Biological Chemistry at the Peter Bent Brigham Hospital.

Donald F. H. Wallach, M.D., Assistant Professor of Biological Chemistry, and Tutor in Medical Sciences.

Lorne A. MacHattie, Ph.D., Lecturer on Biological Chemistry.

Elizabeth R. Simons, Ph.D., Lecturer on Biological Chemistry.

Pierre J. Stoffyn, Ph.D., Lecturer on Biological Chemistry at the McLean Hospital.

Roberta F. Colman, Ph.D., Associate in Biological Chemistry at the Massachusetts General Hospital.

Joseph Eichberg, Jr., Ph.D., Associate in Biological Chemistry at the McLean Hospital.

Ting-Kai Li, M.D., Associate in Medicine in the Department of Biological Chemistry.

James C. Orr, Ph.D., Associate in Biological Chemistry.

Yoshinori Kidani, D.Pharm.Sc., Visiting Lecturer on Biological Chemistry (from September 1, 1968).

James P. Koch, M.D., Lecturer on Biological Chemistry.

Lockhart B. Rogers, Ph.D., Visiting Lecturer on Biological Chemistry (resigned July 31, 1968).

Wolfie Traub, Ph.D., Visiting Lecturer on Biological Chemistry (from October 1, 1968).

Atsushi Ando, D.Sc., Research Associate in Biological Chemistry.

Nicolas G. Bazan, Jr., M.D., Research Associate in Biological Chemistry (resigned October 31, 1968).

Alexander U. Bertland, II, Ph.D., Research Associate in Biological Chemistry.

Chitra Biswas, Ph.D., Research Associate in Biological Chemistry (from September 1, 1968).

John F. Codington, Ph.D., Research Associate in Biological Chemistry.

Thomas L. Coombs, Ph.D., Research Associate in Biological Chemistry (on leave October 20, 1968 through June 30, 1969).

Susan R. Dowd, Ph.D., Research Associate in Biological Chemistry (resigned November 15, 1968).

David E. Drum, M.D., Research Associate in Biological Chemistry.

Montserrat deM. Fencl, Ph.D., Research Associate in Biological Chemistry.

Keiichiro Fuwa, Ph.D., Research Associate in Biological Chemistry.

Guiseppe Geraci, Ph.D., Research Associate in Biological Chemistry.

Olga F. Greengard, Ph.D., Research Associate in Biological Chemistry.

Kohei Hayashi, M.D., Ph.D., Research Associate in Biological Chemistry (through October 31, 1968).

Albert E. Herner, Ph.D., Research Associate in Biological Chemistry.

Mervyn Israel, Ph.D., Research Associate in Biological Chemistry.

Peteranne B. Joel, Ph.D., Research Associate in Biological Chemistry (resigned September 15, 1968).

Harry J. Karavolas, Ph.D., Research Associate in Biological Chemistry (resigned October 31, 1968).

David G. Large, Ph.D., Research Associate in Biological Chemistry.

Marjorie B. Lees, Ph.D., Research Associate in Biological Chemistry.

Akira Makita, M.D., Ph.D., Research Associate in Biological Chemistry.

Johannes A. Meienhofer, Dr.Nat., Research Associate in Biological Chemistry.

Ezio Merler, Ph.D., Research Associate in Biological Chemistry.

Yang H. Oh, Ph.D., Research Associate in Biological Chemistry.

Henrik A. Olesen, Ph.D., Research Associate in Biological Chemistry (resigned August 31, 1968).

Peter Perchemlides, Ph.D., Research Associate in Biological Chemistry.

Erika E. Randerath, Ph.D., Research Associate in Biological Chemistry.

Annette M. C. Rapin, Ph.D., Research Associate in Biological Chemistry.

Vernon N. Reinhold, Ph.D., Research Associate in Biological Chemistry.

Andre Rosowsky, M.D., Research Associate in Biological Chemistry.

W. Dean Rupp, Ph.D., Research Associate in Biological Chemistry (resigned August 31, 1968).

D. Rao Sanadi, Ph.D., Research Associate in Biological Chemistry.

Nilima Sarkar, Ph.D., Research Associate in Biological Chemistry.

Rosemary S. J. Schraer, Ph.D., Research Associate in Biological Chemistry (resigned July 3, 1968).

Gwendolyn M. Sherman, Ph.D., Research Associate in Biological Chemistry (from August 1, 1968).

Wan-Kyng L. Shum, Ph.D., Research Associate in Biological Chemistry.

Anne M. Stoffyn, Ph.D., Research Associate in Biological Chemistry.

David A. Swann, Ph.D., Research Associate in Biological Chemistry.

Masashi Tomoda, Ph.D., Research Associate in Biological Chemistry (resigned August 23, 1968).

Elvera A. Glass, S.B., Assistant in Biological Chemistry.

Joel W. Adelson, Ph.D., Research Fellow in Biological Chemistry.

Terukatsu Arima, M.D., Research Fellow in Biological Chemistry.

John B. Armstrong, Ph.D., Research Fellow in Biological Chemistry.

David S. Auld, Ph.D., Research Fellow in Biological Chemistry.

Roy Barzilai, Ph.D., Research Fellow in Biological Chemistry.

Nasir Bashirelahi, Ph.D., Research Fellow in Biological Chemistry (from September 1, 1968).

W. David Behnke, Ph.D., Research Fellow in Biological Chemistry.

Paul J. Beisswenger, M.D., Research Fellow in Biological Chemistry.

David Beith-Halahmi, Ph.D., Research Fellow in Biological Chemistry.

Peter Biely, Ph.D., Research Fellow in Biological Chemistry (resigned February 13, 1969).

Risto Bokonjic, M.D., Research Fellow in Biological Chemistry (through September 30, 1968).

Winfried Boos, Ph.D., Research Fellow in Biological Chemistry.

Donald J. W. Burns, Ph.D., Research Fellow in Biological Chemistry (from February 1, 1969).

James L. Byard, Ph.D., Research Fellow in Biological Chemistry (from October 1, 1968).

Melvin S. Center, Ph.D., Research Fellow in Biological Chemistry.

Gerald J. Chader, Ph.D., Research Fellow in Biological Chemistry.

Eduardo H. Charreau, Ph.D., Research Fellow in Biological Chemistry (resigned November 6, 1968).

Philipp Christen, M.D., Research Fellow in Biological Chemistry.

Charles M. Deber, Ph.D., Research Fellow in Biological Chemistry.

Lawrence R. Dechatelet, Ph.D., Research Fellow in Biological Chemistry.

Edward A. Dennis, Ph.D., Research Fellow in Biological Chemistry.

Ivan F. Diamond, M.D., Research Fellow in Biological Chemistry.

Antonio DiCorato, Ph.D., Research Fellow in Biological Chemistry.

Richard W. Erbe, M.D., Research Fellow in Biological Chemistry.

Gordon F. Fairclough, Jr., Ph.D., Research Fellow in Biological Chemistry.

Francesc Gonzalez-Sastre, M.D., Research Fellow in Biological Chemistry.

Adrienne S. Gordon, Ph.D., Research Fellow in Biological Chemistry.

John M. Graham, Ph.D., Research Fellow in Biological Chemistry (from September 15, 1968).

Nora R. Hackett, Ph.D., Research Fellow in Biological Chemistry (from November 1, 1968).

Margaret D. A. Halford, Ph.D., Research Fellow in Biological Chemistry (from September 1, 1968).

John F. Hartman, Ph.D., Research Fellow in Biological Chemistry.

Hiroshi Hayashida, Ph.D., Research Fellow in Biological Chemistry (from October 15, 1968).

Tatsuo Higuchi, D.M.S., Research Fellow in Biological Chemistry (from October 15, 1968).

Jerzy Hildebrand, M.D., Research Fellow in Biological Chemistry.

Barton Holmquist, Ph.D., Research Fellow in Biological Chemistry (from November 1, 1968).

Billy G. Hudson, Ph.D., Research Fellow in Biological Chemistry (from September 1, 1968).

Garret M. Ihler, Ph.D., Research Fellow in Biological Chemistry.

Jeong H. Im, Ph.D., Milton Research Fellow in Biological Chemistry (resigned September 30, 1968).

Yoshikazau Ito, M.D., D.M.S., Research Fellow in Biological Chemistry (from September 1, 1968).

Alain G. Jacquemin-Sablon, Ph.D., Research Fellow in Biological Chemistry.

Theodore H. D. Jones, Ph.D., Research Fellow in Biological Chemistry (resigned September 6, 1968).

Herbert M. Kagan, Ph.D., Research Fellow in Biological Chemistry.

Richard L. Katzman, Ph.D., Research Fellow in Biological Chemistry.

Herbert A. Klein, M.D., Research Fellow in Biological Chemistry (from October 1, 1968).

Toshimasa Kojima, Ph.D., Research Fellow in Biological Chemistry.

Yutaka Kojima, M.D., Ph.D., Research Fellow in Biological Chemistry.

Jorge A. Leston, M.D., Research Fellow in Biological Chemistry.

Helene B. Markus, Ph.D., Research Fellow in Biological Chemistry.

David I. Marlborough, Ph.D., Research Fellow in Biological Chemistry (through October 31, 1968).

Yukito Masamune, Ph.D., Research Fellow in Biological Chemistry.

Robert H. Michell, Ph.D., Research Fellow in Biological Chemistry (through August 31, 1968).

Kenji Miyai, Ph.D., Research Fellow in Biological Chemistry (from November 1, 1968).

Jaime L. Monreal, Ph.D., Research Fellow in Biological Chemistry.

Dexter Northrop, Ph.D., Research Fellow in Biological Chemistry (from September 15, 1968).

Donald S. O'Hara, M.D., Ph.D., Research Fellow in Biological Chemistry.

Charles H. O'Neill, Ph.D., Research Fellow in Biological Chemistry (from September 1, 1968).

Alfred F. Parisi, M.D., Research Fellow in Biological Chemistry.

Chantal J. Peeters, Ph.D., Milton Research Fellow in Biological Chemistry (through September 30, 1968).

Eliezer S. Rachaman, Ph.D., Research Fellow in Biological Chemistry (resigned September 8, 1968).

George Rouschias, Ph.D., Research Fellow in Biological Chemistry.

Mrinal K. Sanyal, Ph.D., Research Fellow in Biological Chemistry (from September 15, 1968).

Matti O. Sarvas, M.D., Ph.D., Research Fellow in Biological Chemistry.

Gene A. Scarborough, Ph.D., Research Fellow in Biological Chemistry (resigned September 14, 1968).

Angelo Scatturin, Ph.D., Research Fellow in Biological Chemistry (resigned December 31, 1968).

Immo E. Scheffler, Ph.D., Research Fellow in Biological Chemistry (from November 1, 1968).

Pierre G. Sinay, Ph.D., Research Fellow in Biological Chemistry (resigned August 27, 1968).

Massimiliano Spinola, Ph.D., Research Fellow in Biological Chemistry.

Theodore L. Steck, M.D., Research Fellow in Biological Chemistry (from September 1, 1968).

Robert C. Thompson, Ph.D., Research Fellow in Biological Chemistry (from October 15, 1968).

Dennis A. Torchia, Ph.D., Research Fellow in Biological Chemistry.

Alain M. M. Veyrieres, Ph.D., Research Fellow in Biological Chemistry (from September 1, 1968).

Stephan B. Abramson, S.B., Teaching Fellow in Biological Chemistry.

David L. Brandon, A.B., Teaching Fellow in Biological Chemistry.

Joseph W. DePierre, S.B., Teaching Fellow in Biological Chemistry.

Gerald A. Dienel, S.B., Teaching Fellow in Biological Chemistry.

Samuel A. Latt, M.D., Teaching Fellow in Biological Chemistry.

Barbara J. McNeil, M.D., Teaching Fellow in Biological Chemistry.

Joseph R. Parrish, Jr., S.B., Teaching Fellow in Biological Chemistry.

Ruth S. Quinn, A.M., Teaching Fellow in Biological Chemistry.

Robert T. Simpson, M.D., Teaching Fellow in Biological Chemistry.

Bonnie B. Spanier, A.B., Teaching Fellow in Biological Chemistry.

Jeremy W. Thorner, A.B., Teaching Fellow in Biological Chemistry.

Miriam M. Ziegler, S.B., Teaching Fellow in Biological Chemistry.

Required Course

Biological Chemistry. *First Year* (*new program*). — During the first semester the lectures and conferences in Biological Chemistry discuss the chemical components of living matter and the metabolic

processes common to all tissues. Laboratory work deals with the physical and chemical concepts necessary to an understanding of living processes, and the fundamental chemical characteristics of biological compounds and enzymatic reactions.

FIRST YEAR	HOURS
Lectures and laboratory work. Drs. Alpers, Ball, Bethune, Blout, Cappechi, Chader, Colman, Comb, Eichberg, Engel, Folch-Pi, Gergeley, Harper, Hauser, Jeanloz, Kalckar, Karnovsky, Kennedy, Knox, Lin, Meienhofer, Mokrasch, Orr, Paulus, Richardson, Rieder, Riordan, Robinson, Sanadi, Schwabe, Simons, Spiro, Stoffyn, Swann, Thomas, Vallee, Villee, and Wallach.	101

Fourth Year Elective Courses *

LONGITUDINAL COURSES

703. Biochemical Techniques. Members of the Department. (*Same course as Biochemistry 202, Faculty of Arts and Sciences.*)
704. Molecular Mechanisms in Neoplasia. Dr. Wallach and Associates. (*Same course as Biochemistry 222, Faculty of Arts and Sciences.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Dental Medicine

Opportunities for voluntary and elective work are available at the School of Dental Medicine for third and fourth year medical students. Course material will be designed to meet individual needs where possible. Instruction will be on a tutorial basis. Make all inquiries at the Dean's Office, School of Dental Medicine.

Fourth Year Elective Course *

LONGITUDINAL COURSE

702. Child Growth and Development. Dr. Moorrees and staff. S.D.M.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Dermatology

Thomas B. Fitzpatrick, M.D., Ph.D., Edward Wigglesworth Professor of Dermatology, and Head of the Department.

Charles M. Lapiere, M.D., Ph.D., Visiting Professor of Dermatology (from September 1, 1968 through December 31, 1968).

Howard P. Baden, M.D., Assistant Professor of Dermatology.

Irwin M. Freedberg, M.D., Assistant Professor of Dermatology at the Beth Israel Hospital.

Robert D. Griesemer, M.D., Assistant Professor of Dermatology at the Massachusetts General Hospital.

Madhukar A. Pathak, Ph.D., Assistant Professor of Dermatology.

George Szabo, Ph.D., Assistant Professor of Anatomy in the Department of Dermatology.

Kenneth A. Arndt, M.D., Associate in Dermatology at the Beth Israel Hospital.

Jean B. Burnett, Ph.D., Associate in Biological Chemistry in the Department of Dermatology.

Richard Masters, M.D., Ph.D., Clinical Associate in Dermatology.

Robert J. Scheuplein, Ph.D., Associate in Biophysics in the Department of Dermatology.

Walter F. Lever, M.D., Lecturer on Dermatology.

Walter Quevedo, Jr., Ph.D., Visiting Lecturer on Dermatology.

Rosine Bretton, M.D., Research Associate in Dermatology (through December 31, 1968).

Bertram A. Flaxman, M.D., Research Associate in Dermatology.

Sheldon R. Pinnell, M.D., Research Associate in Dermatology (from September 1, 1968).

William L. Curwen, M.D., Instructor in Dermatology.

Nicholas J. Fiumara, M.D., Instructor in Dermatology.

William F. Gallagher, M.D., Instructor in Dermatology.

William R. Hill, M.D., Instructor in Dermatology.

Charles S. Keuper, M.D., Instructor in Dermatology.
Philip L. McCarthy, M.D., Instructor in Dermatology.
A. David McGugan, M.B., Ch.B., Instructor in Dermatology.
Robert F. Tilley, M.D., Instructor in Dermatology.
(Edwin) Laurie Tolman, M.D., Instructor in Dermatology (from July 15, 1968).
Leroy D. Aaronson, M.D., Assistant in Dermatology.
Joseph Albert, M.D., Assistant in Dermatology.
Earl A. Glicklich, M.D., Assistant in Dermatology.
Milton E. Helman, M.D., Assistant in Dermatology.
Burnham E. Lamkins, M.D., Assistant in Dermatology.
Myron H. Matz, M.D., Assistant in Dermatology.
Edmund L. Piper, M.D., Assistant in Dermatology.
Sabino J. Sinesi, M.D., Assistant in Dermatology.
Arthur S. Spangler, M.D., Assistant in Dermatology.
A. Bernard Ackerman, M.D., Research Fellow in Dermatology (resigned December 31, 1968).
Lowell A. Goldsmith, M.D., Research Fellow in Dermatology.
Harley A. Haynes, M.D., Research Fellow in Dermatology.
Yoshiaki Hori, M.D., Ph.D., Research Fellow in Dermatology (through February 28, 1969).
James T. Kalivas, M.D., Research Fellow in Dermatology (through February 28, 1969).
Dieter Kramer, Ph.D., Research Fellow in Dermatology (through February 28, 1969).
Gerald S. Lazarus, M.D., Research Fellow in Dermatology.
Katsuhiko Matsui, Ph.D., Research Fellow in Dermatology (through August 31, 1968).
Tadashi Tezuka, M.D., Ph.D., Research Fellow in Dermatology (from September 1, 1968).
Kiyoshi Toda, M.D., Research Fellow in Dermatology
Gary J. Brauner, M.D., Teaching Fellow in Dermatology.
Michael Fisher, M.D., Teaching Fellow in Dermatology.
Gerald C. Goldman, M.D., Teaching Fellow in Dermatology.
Thomas P. Nigra, M.D., Teaching Fellow in Dermatology.
Mary D. Skinner, M.D., Teaching Fellow in Dermatology.

NICHOLAS A. SOTER, M.D., Teaching Fellow in Dermatology.

Required Course

DERMATOLOGY. *Introduction to the Clinic* and *Principal Clinical Year.* — The courses emphasize the pathologic physiology of various diseases involving the skin and the recognition of cutaneous manifestations of systemic diseases. Instruction consists of lectures and clinical exercises at the hospitals during the Introduction to the Clinic and a clinical clerkship during the Principal Clinical Year.

INTRODUCTION TO THE CLINIC	HOURS
Lectures and clinical exercises. B.I.H., B.C.H., M.G.H., P.B.B.H.	
PRINCIPAL CLINICAL YEAR	
Clinical Clerkship. M.G.H.	40

Fourth Year Elective Courses *

BLOCK COURSES

501M. Dermatology I. Drs. I. M. FREEDBERG and ARNDT. (*Same course as Medicine 540M.*)
502M. Clinical Clerkship. Dr. FITZPATRICK and ASSOCIATES.
503M. Pathology of Skin — Clinical and Microscopic Correlations. Drs. FITZPATRICK and W. CLARK. (*Same course as Pathology 511M.*)

LONGITUDINAL COURSES

701. Clinical Conference and Presentation of Patients. Dr. FITZPATRICK and ASSOCIATES.
702. Clinical Conference and Presentation of Patients. Dr. TOLMAN.
703. Seminars on Pathophysiology of Skin.
704. Neoplasms of Melanocytes and Related Problems in Cutaneous Pathology. Dr. W. CLARK. (*Same course as Pathology 701.*)
705. Peptides and Proteins. Drs. BLOUT, VALLEE, and Associates. (*Same course as Biochemistry 213, Faculty of Arts and Sciences.*)
706. Biochemical Control Mechanisms. Dr. ENGEL and Associates. (*Same course as Biochemistry 211, Faculty of Arts and Sciences.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Medicine

Howard H. Hiatt, M.D., Herrman Ludwig Blumgart Professor of Medicine, and Head of the Department at the Beth Israel Hospital.

James H. Jandl, M.D., George Richards Minot Professor of Medicine, and Head of the Department at the Boston City Hospital.

Alexander Leaf, M.D., A.M. (hon.), Jackson Professor of Clinical Medicine, and Head of the Department at the Massachusetts General Hospital.

George W. Thorn, M.D., A.M. (hon.), LL.D. (hon.), Sc.D. (hon.), Dr. of Med. (hon.), Hersey Professor of the Theory and Practice of Physic, Samuel A. Levine Professor of Medicine, and Head of the Department at the Peter Bent Brigham Hospital.

Kurt J. Isselbacher, M.D., Professor of Medicine at the Massachusetts General Hospital, and Chairman of the Executive Committee of the Department of Medicine.

K. Frank Austen, M.D., Professor of Medicine.

Lewis Dexter, M.D., Clinical Professor of Medicine, and Tutor in Medicine.

Robert H. Ebert, Dr. Phil., M.D., A.M. (hon.), Professor of Medicine, and Dean of the Faculty of Medicine.

Laurence B. Ellis, M.D., Clinical Professor of Medicine.

Kendall Emerson, Jr., M.D., Clinical Professor of Medicine.

Eugene C. Eppinger, M.D., Clinical Professor of Medicine.

Irving H. Goldberg, M.D., Ph.D., A.M. (hon.), Professor of Medicine, and Chairman of the Division of Medical Sciences.

David Hurwitz, M.D., Clinical Professor of Medicine.

Alfred Kranes, M.D., Clinical Professor of Medicine.

William C. Moloney, M.D., D.Sc. (hon.), Clinical Professor of Medicine.

George Nichols, Jr., M.D., Clinical Professor of Medicine.

Thomas A. Warthin, M.D., Clinical Professor of Medicine.

Paul C. Zamecnik, M.D., D.Sc. (hon.), Collis P. Huntington Professor of Oncologic Medicine, and Director of the J. Collins Warren Laboratories of the Huntington Memorial Hospital.

Louis Zetzel, M.D., Clinical Professor of Medicine.

Paul M. Zoll, M.D., Clinical Professor of Medicine.

Walter H. Abelmann, M.D., Associate Clinical Professor of Medicine.

George F. Cahill, Jr., M.D., A.M. (hon.), Associate Professor of Medicine at the Peter Bent Brigham Hospital.

Earle M. Chapman, M.D., Associate Clinical Professor of Medicine.

Charles S. Davidson, M.D., C.M., A.M. (hon.), Associate Professor of Medicine.

Howard S. Frazier, Ph.D., M.D., Associate Professor of Medicine at the Beth Israel Hospital.

A. Stone Freedberg, M.D., Associate Professor of Medicine at the Beth Israel Hospital.

Jerome Gross, M.D., A.M. (hon.), Associate Professor of Medicine at the Massachusetts General Hospital.

Edgar Haber, M.D., A.M. (hon.), Associate Professor of Medicine at the Massachusetts General Hospital.

Sidney H. Ingbar, M.D., Associate Professor of Medicine.

Edward H. Kass, Ph.D., M.D., A.M. (hon.), Associate Professor of Medicine.

Stephen M. Krane, M.D., A.M. (hon.), Associate Professor of Medicine at the Massachusetts General Hospital.

George S. Kurland, M.D., Associate Clinical Professor of Medicine.

Harold D. Levine, M.D., Associate Clinical Professor of Medicine.

Arthur J. Linenthal, M.D., Associate Clinical Professor of Medicine.

John P. Merrill, M.D., Associate Professor of Medicine at the Peter Bent Brigham Hospital.

Marian W. Ropes, M.D., D.Sc. (hon.), Associate Clinical Professor of Medicine.

Jesse F. Scott, M.D., A.M. (hon.), Associate Professor of Oncologic Medicine.

Morton N. Swartz, M.D., Associate Professor of Medicine at the Massachusetts General Hospital.

Warren E. C. Wacker, M.D., A.M. (hon.), Associate Professor of Medicine.

Alan C. Aisenberg, M.D., Ph.D., Assistant Professor of Medicine.

David W. Allen, M.D., Assistant Professor of Medicine.

Mark D. Altschule, M.D., Assistant Clinical Professor of Medicine.

Ronald A. Arky, M.D., Assistant Professor of Medicine, and Tutor in Medical Sciences.

Richard H. Aster, M.D., Assistant Professor of Medicine.

William H. Baker, M.D., Assistant Clinical Professor of Medicine.

Benjamin M. Banks, M.D., Assistant Clinical Professor of Medicine.

G. Octo Barnett, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Theodore B. Bayles, M.D., Assistant Clinical Professor of Medicine.

William S. Beck, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Daniel S. Bernstein, M.D., Assistant Professor of Medicine.

Frederick S. Bigelow, M.D., Assistant Clinical Professor of Medicine.

Paul H. Black, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Kurt J. Bloch, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Richard A. Bloomfield, M.D., Assistant Clinical Professor of Medicine.

Robert F. Bradley, M.D., Assistant Clinical Professor of Medicine.

Nancy L. R. Bucher, M.D., Assistant Clinical Professor of Medicine.

Phin Cohen, M.D., Assistant Clinical Professor of Medicine (on leave July 1, 1968 through June 30, 1969).

Margaret F. Conroy, Ph.D., Assistant Professor of Mathematical Biology in the Department of Medicine, and Tutor in Mathematical Biology.

John R. David, M.D., Assistant Professor of Medicine at the Robert B. Brigham Hospital.

Harry A. Derow, M.D., Assistant Clinical Professor of Medicine.

Roman W. DeSanctis, M.D., Assistant Clinical Professor of Medicine.

Daniel Deykin, M.D., Assistant Professor of Medicine.

Daniel S. Ellis, M.D., Assistant Clinical Professor of Medicine.

Daniel D. Federman, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital, and Assistant Dean of the Faculty of Medicine for Continuing Education.

David S. Feingold, M.D., Assistant Professor of Medicine at the Beth Israel Hospital.

Anne P. Forbes, M.D., Assistant Clinical Professor of Medicine (on leave July 1, 1968 through June 30, 1969).

Dale G. Friend, M.D., Assistant Professor of Medicine at the Peter Bent Brigham Hospital.

Ralph S. Goldsmith, M.D., Assistant Professor of Medicine (resigned December 31, 1968).

Richard Gorlin, M.D., Assistant Professor of Medicine at the Peter Bent Brigham Hospital.

Thomas C. Hall, M.D., Assistant Clinical Professor of Medicine.

Roger B. Hickler, M.D., Assistant Professor of Medicine.

Jeremias H. R. Kagi, M.D., Assistant Professor of Medicine.

Rita M. Kelley, M.D., Assistant Clinical Professor of Medicine.

Russell H. Kesselman, M.D., Assistant Professor of Medicine.

Milton Landowne, M.D., Assistant Clinical Professor of Medicine.

David P. Lauler, M.D., Assistant Professor of Medicine at the Peter Bent Brigham Hospital.

David Littmann, M.D., Assistant Clinical Professor of Medicine.

Francis C. Lowell, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Farahe Maloof, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Donald B. Martin, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Israel Mirsky, Ph.D., Assistant Professor of Mathematical Biology in the Department of Medicine.

Gordon S. Myers, M.D., Assistant Clinical Professor of Medicine.

John T. Potts, Jr., M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

Kurt Randerath, M.D., Assistant Professor of Biological Chemistry in the Department of Medicine.

Joseph E. F. Riseman, M.D., Assistant Clinical Professor of Medicine.

Stephen H. Robinson, M.D., Assistant Professor of Medicine.

Leon D. Sabath, M.D., Assistant Professor of Medicine.

Stuart F. Schlossman, M.D., Assistant Professor of Medicine at the Beth Israel Hospital.

Herbert A. Selenkow, M.D., Assistant Professor of Medicine at the Peter Bent Brigham Hospital.

Edmund H. Sonnenblick, M.D., Assistant Professor of Medicine.

Philip R. Steinmetz, M.D., Assistant Professor of Medicine at the Beth Israel Hospital.

J. Sydney Stillman, M.D., Assistant Clinical Professor of Medicine.

John D. Stoeckle, M.D., Assistant Professor of Medicine at the Massachusetts General Hospital.

James L. Tullis, M.D., Assistant Clinical Professor of Medicine.

David D. Ulmer, M.D., Assistant Professor of Medicine.

Roe Wells, M.D., Assistant Professor of Medicine at the Peter Bent Brigham Hospital.

Bertram M. Winer, M.D., Assistant Clinical Professor of Medicine.

D. Michael Young, M.D., Assistant Professor of Biological Chemistry in the Department of Medicine.

Norman Zamcheck, M.D., Assistant Clinical Professor of Medicine.

Kenneth T. Bird, M.D., Lecturer on Medicine.

Joseph F. Dingman, M.D., Lecturer on Medicine.

Joseph W. Gardella, M.D., Lecturer on Medicine, and Associate Dean of the Faculty of Medicine for Student Affairs.

Harriet L. Hardy, M.D., Lecturer on Medicine.

Andrew G. Jessiman, M.B., Ch.B., Lecturer on Medicine.

John H. Knowles, M.D., Lecturer on Medicine.

Americo A. Abbruzzese, M.D., Clinical Associate in Medicine.

Irving P. Ackerman, M.D., Clinical Associate in Medicine.

Lucile F. Adamson, Ph.D., Associate in Biological Chemistry in the Department of Medicine.

Chester A. Alper, M.D., Associate in Medicine at The Children's Hospital.

David H. Alpers, M.D., Associate in Medicine at the Massachusetts General Hospital.

George E. Altman, M.D., Clinical Associate in Medicine.

Bernard M. Babior, M.D., Associate in Medicine, and Francis Weld Peabody Fellow in Medicine.

C. Cabell Bailey, M.D., Clinical Associate in Medicine.

Harry Bass, M.D., Associate in Medicine at the Peter Bent Brigham Hospital, and Tutor in Medical Sciences.

Samuel B. Beaser, M.D., Clinical Associate in Medicine.

Howard L. Bleich, M.D., Associate in Medicine at the Beth Israel Hospital.

Walter R. Burack, M.D., Clinical Associate in Medicine

Charles B. Carpenter, M.D., Associate in Medicine.

James R. Carter, Jr., M.D., Associate in Medicine at the Massachusetts General Hospital, and Tutor in Medical Science.

Mortimer M. Civan, M.D., Associate in Medicine at the Massachusetts General Hospital.

Robert W. Colman, M.D., Associate in Medicine at the Massachusetts General Hospital.

Perry J. Culver, M.D., Clinical Associate in Medicine, and Associate Dean of the Faculty of Medicine for Admissions.

Frank F. Davidoff, M.D., Associate in Medicine at the Beth Israel Hospital.

A. Ivins De Friez, M.D., Clinical Associate in Medicine.

Jerome W. Fischbein, M.D., Clinical Associate in Medicine.

Gerald S. Foster, M.D., Clinical Associate in Medicine.

Paul Fremont-Smith, M.D., Clinical Associate in Medicine.

Allan L. Friedlich, M.D., Clinical Associate in Medicine.

Stephen E. Goldfinger, M.D., Associate in Medicine at the Massachusetts General Hospital, and Director of Community Programs in the Department of Continuing Education of the Faculty of Medicine.

A. Arthur Gottlieb, M.D., Associate in Medicine.

Joseph S. Gryboski, M.D., Clinical Associate in Medicine.

Warren R. Guild, M.D., Clinical Associate in Medicine.

Victor Gurewich, M.D., Clinical Associate in Medicine.

Arthur P. Hall, M.D., Clinical Associate in Medicine.

Audrey E. V. Haschemeyer, Ph.D., Associate in Biological Chemistry in the Department of Medicine at the Massachusetts General Hospital.

Emanuel S. Hellman, M.D., Clinical Associate in Medicine.

Edgar C. Henshaw, M.D., Associate in Medicine.

Carl A. Hirsch, M.D., Associate in Medicine.

William B. Hood, Jr., M.D., Associate in Medicine, and Tutor in Medical Sciences.

Bernard M. Jacobson, M.D., Clinical Associate in Medicine.

George A. Jacoby, Jr., M.D., Associate in Medicine at the Massachusetts General Hospital.

Homayoun Kazemi, M.D., Associate in Medicine at the Massachusetts General Hospital (on leave January 1, 1969 through April 15, 1969).

Bernard Kliman, M.D., Associate in Medicine at the Massachusetts General Hospital.

David C. Lewis, M.D., Associate in Medicine at the Beth Israel Hospital.

Dudley Merrill, M.D., Clinical Associate in Medicine.

John A. Mills, M.D., Associate in Medicine at the Massachusetts General Hospital.

Eugene Morkin, Jr., M.D., Associate in Medicine.

John M. Moses, M.D., Associate in Medicine at the Massachusetts General Hospital.

H. Richard Nesson, M.D., Clinical Associate in Medicine (on leave September 14, 1968 through December 10, 1968).

Thomas F. O'Brien, M.D., Clinical Associate in Medicine.

Donald E. Oken, M.D., Associate in Medicine at the Peter Bent Brigham Hospital.

Maurice M. Pechet, Ph.D., M.D., Associate in Medicine at the Massachusetts General Hospital.

George M. Pike, M.D., Clinical Associate in Medicine.

Walter W. Point, M.D., Clinical Associate in Medicine.

Curtis Prout, M.D., Clinical Associate in Medicine.

Mitchell T. Rabkin, M.D., Associate in Medicine at the Beth Israel Hospital.

Bernard J. Ransil, M.D., Ph.D., Associate in Medicine.

Paul R. Reich, M.D., Associate in Medicine at the Beth Israel Hospital.

Dwight R. Robinson, M.D., Associate in Biological Chemistry in the Department of Medicine at the Massachusetts General Hospital.

Irwin H. Rosenberg, M.D., Associate in Medicine (on leave September 10, 1968 through June 30, 1969).

Seymour M. Sabesin, M.D., Associate in Medicine at the Massachusetts General Hospital.

Walter T. St. Goar, M.D., Clinical Associate in Medicine.

Guillermo C. Sanchez, M.D., Clinical Associate in Medicine.

Charles A. Sanders, M.D., Associate in Medicine at the Massachusetts General Hospital.

Arthur A. Sasahara, M.D., Clinical Associate in Medicine.

Robert H. Schapiro, M.D., Clinical Associate in Medicine.

Peter B. Schneider, M.D., Associate in Medicine at the Beth Israel Hospital.

Peter H. Schur, M.D., Associate in Medicine at the Robert B. Brigham Hospital.

Norman J. Selverstone, M.D., Clinical Associate in Medicine.

Louis M. Sherwood, M.D., Associate in Medicine at the Beth Israel Hospital.

William J. Shriber, M.D., Clinical Associate in Medicine.

Victor W. Sidel, M.D., Associate in Medicine at the Massachusetts General Hospital.

Philip J. Snodgrass, M.D., Associate in Medicine and Henry A. and Camillus Christian Fellow in Medicine.

Julian G. Snyder, Ph.D., M.D., Clinical Associate in Medicine.

Edward L. Socolow, M.D., Associate in Medicine (resigned December 31, 1968).

John S. Soeldner, M.D., Associate in Medicine at the Peter Bent Brigham Hospital.

William D. Sohier, Jr., M.D., Clinical Associate in Medicine.

Frank E. Speizer, M.D., Associate in Medicine.

Norman S. Stearns, M.D., Clinical Associate in Medicine.

Samuel Stearns, M.D., Clinical Associate in Medicine.

Neal H. Steigbigel, M.D., Associate in Medicine at the Beth Israel Hospital.

Jurgen Steinke, M.D., Associate in Medicine.

Mary L. Stephenson, Ph.D., Associate in Biological Chemistry in the Department of Medicine.

George P. Sturgis, M.D., Clinical Associate in Medicine.

Melvin I. Sturnick, M.D., Clinical Associate in Medicine.

Samuel O. Thier, M.D., Associate in Medicine at the Massachusetts General Hospital.

Jeremiah G. Tilles, M.D., Associate in Medicine.

Arnold N. Weinberg, M.D., Associate in Medicine at the Massachusetts General Hospital.

Edwin O. Wheeler, M.D., Clinical Associate in Medicine.

Conger Williams, M.D., Clinical Associate in Medicine.

Kenneth A. Woeber, M.B., Ch.B., M.D., Associate in Medicine.

Richard Wolff, M.D., Clinical Associate in Medicine.

Peter M. Yurchak, M.D., Associate in Medicine at the Massachusetts General Hospital.

Paul B. Beeson, M.D., C.M., Visiting Lecturer on Medicine (from January 15, 1969 through January 23, 1969).

Dirk L. Brutsaert, M.D., Visiting Lecturer on Medicine (through September 30, 1968).

Thomas C. Chalmers, M.D., Lecturer on Medicine.

Carleton B. Chapman, M.D., Lecturer on Medicine.

Ian J. Forbes, M.D., Visiting Lecturer on Medicine (resigned August 16, 1968).

John R. Graham, M.D., Lecturer on Medicine.

Seymour J. Gray, M.D., Ph.D., Lecturer on Medicine.

Aubrey Leatham, M.B., Ch.B., Visiting Lecturer on Medicine (from September 1, 1968 through September 7, 1968).

Robert S. Lees, M.D., Lecturer on Medicine (from September 1, 1968).

Thomas C. Merigan, M.D., Visiting Lecturer on Medicine (from November 1, 1968 through November 10, 1968).

Walter S. Metcalf, Dr.Phil., Visiting Lecturer on Medicine (through December 31, 1968).

Roger E. Monier, Ph.D., Visiting Lecturer on Medicine (through August 31, 1968).

John A. Parsons, M.B., Ch.B., Visiting Lecturer on Medicine (from September 1, 1968).

Hal B. Richerson, M.D., Visiting Lecturer on Medicine.

Albert O. Seeler, M.D., Lecturer on Medicine.

Maurice S. Segal, M.D., Lecturer on Medicine.

John B. Stanbury, M.D., Lecturer on Medicine.

Harry Statland, M.D., Visiting Lecturer on Medicine (from November 15, 1968).

Eugene A. Stead, Jr., M.D., Visiting Lecturer on Medicine (from March 2, 1969 through March 8, 1969).

Maurice B. Strauss, M.D., Lecturer on Medicine.

Jaap Van Der Sluys Veer, M.D., Visiting Lecturer on Medicine (from August 25, 1968 through February 28, 1969).

Richard P. Wedeen, M.D., Visiting Lecturer on Medicine

Saul Aronow, Ph.D., Research Associate in Medicine (on leave January 15, 1969 through June 30, 1969).

Marios C. Balodimos, M.D., Research Associate in Medicine.

Peter Braun, M.D., Research Associate in Medicine.

Gordon L. Brownell, Ph.D., Research Associate in Medicine.

Romaine R. Bruns, D.D.S., Ph.D., Research Associate in Medicine.

John F. Buoncristiani, Ph.D., Research Associate in Medicine.

Renata E. Cathou, Ph.D., Research Associate in Medicine.

Douglas A. Chamberlain, M.B., Ch.B., M.D., Research Associate in Medicine (through December 31, 1968).

Bernard I. Chazan, M.B., Ch.B., Research Associate in Medicine (through December 31, 1968).

Albert R. Christlieb, M.D., Research Associate in Medicine.

Daisy DePeralto, M.D., Research Associate in Medicine.

Robert Ferguson, M.B., Ch.B., Research Associate in Medicine.

Barbara C. George, M.D., Research Associate in Medicine (resigned August 31, 1968).

Irma P. Gigli, M.D., Research Associate in Medicine.

Ray E. Gleason, Ph.D., Research Associate in Mathematical Biology in the Department of Medicine.

Ronald D. Guttmann, M.D., Research Associate in Medicine.

Kunitake Hashiba, M.D., Research Associate in Medicine.

Florence W. Haynes, Ph.D., Research Associate in Medicine.

Lewis J. Hellerstein, M.D., Research Associate in Medicine.

Andrew H. Henderson, M.B., Ch.B., Research Associate in Medicine.

Irvin N. Hirshfield, Ph.D., Research Associate in Medicine (from September 1, 1968).

Wilbert J. Keon, M.D., Research Associate in Medicine.

Murray V. King, Ph.D., Research Associate in Biological Chemistry in the Department of Medicine.

Howard G. Knuttgen, Ph.D., Research Associate in Medicine.

Robert A. Leyton, Ph.D., Research Associate in Medicine.

David M. Linekin, Ph.D., Research Associate in Medicine (resigned December 31, 1968).

Clara Lowy, M.B., B.S., Research Associate in Medicine (from September 1, 1968).

Morelly L. Maayan, M.D., Research Associate in Medicine.

Hans B. Nevinny-Stickel, M.D., Research Associate in Medicine.

Stephen A. Ockner, M.D., Research Associate in Medicine.

Michael N. Oxman, M.D., Research Associate in Medicine.

Alan H. Rapoport, M.D., Research Associate in Medicine.

Lawrence M. B. Razaui, M.B., B.S., Research Associate in Medicine.

Neil B. Ruderman, M.D., Research Associate in Medicine.

Calvin A. Saravis, Ph.D., Research Associate in Biological Chemistry in the Department of Medicine.

Austin U. Sargent, Ph.D., Research Associate in Medicine.

Peter Schofield, Dr.Phil., Research Associate in Medicine.

Helio B. Silva, M.D., Research Associate in Medicine.

Mary J. Spiro, Ph.D., Research Associate in Medicine.

Kathleen Stratton, Ph.D., Research Associate in Medicine.

Jay M. Sullivan, M.D., Research Associate in Biological Chemistry in the Department of Medicine.

Jerome H. Targovnik, M.D., Research Associate in Medicine.

Endre M. Tarjan, Ph.D., Research Associate in Medicine.

Bud C. Tennant, D.V.M., Research Associate in Medicine (from October 1, 1968).

Richard H. Underwood, Ph.D., Research Associate in Biological Chemistry in the Department of Medicine.

John Wahren, M.D., Research Associate in Medicine (through August 31, 1968).

Samuel Wilensky, Ph.D., Research Associate in Medicine.

Stephen H. Zinner, M.D., Research Associate in Medicine.

Felix Ades, M.B., Ch.B., Instructor in Medicine.

Sidney Alexander, M.D., Instructor in Medicine.

Julian M. Aroesty, M.D., Instructor in Medicine.

George P. Baker, Jr., M.D., Instructor in Medicine.

Lawrence Baker, M.D., D.M.D., Instructor in Medicine.

Victor G. Balboni, M.D., Instructor in Medicine.

Peter A. Banks, M.D., Instructor in Medicine.

Peter E. Barry, M.D., Instructor in Medicine.
Edgar D. Bell, Jr., M.D., Instructor in Medicine.
Patricia H. Benedict, M.D., Instructor in Medicine.
Robert S. Blacklow, M.D., Instructor in Medicine, Assistant to the Dean of the Faculty of Medicine for Curriculum, and Tutor in Medical Sciences.
Edwin D. Bransome, Jr., M.D., Instructor in Medicine.
Lewis E. Braverman, M.D., Instructor in Medicine.
Caesar Briefer, M.D., Instructor in Medicine.
Robert E. Brownlee, M.D., Instructor in Medicine.
Matthew A. Budd, M.D., Instructor in Medicine.
Robert C. Buxbaum, M.D., Instructor in Medicine.
John B. Cadigan, Jr., M.D., Instructor in Medicine.
Edmund J. Callahan, III, M.D., Instructor in Medicine.
Robert W. Carey, M.D., Instructor in Medicine.
Walter H. Caskey, M.D., Instructor in Medicine.
Melvin H. Chalfen, M.D., Instructor in Medicine.
Milton H. Clifford, M.D., Instructor in Medicine.
Cecil H. Coggins, M.D., Instructor in Medicine.
George L. Cohen, M.D., Instructor in Medicine.
Jordan J. Cohen, M.D., Instructor in Medicine.
Stafford I. Cohen, M.D., Instructor in Medicine.
Mark H. Cooley, M.D., Instructor in Medicine.
Richard A. Cooper, M.D., Instructor in Medicine, and Tutor in Medical Sciences.
Augustus T. Crocker, M.D., Instructor in Medicine.
Seth C. Crocker, M.D., Instructor in Medicine.
James F. Cummins, M.D., Instructor in Medicine.
Stephen J. Curtis, M.D., Instructor in Medicine.
James E. Dalen, M.D., Instructor in Medicine.
Leonard J. Deftos, M.D., Instructor in Medicine.
Emmanuel Deutsch, M.D., Instructor in Medicine.
Joseph L. Dorsey, M.D., Instructor in Medicine.
Morris Dratch, M.D., Instructor in Medicine.
Michael Field, M.D., Instructor in Medicine.
Joseph M. St. F. Flanagan, M.B., Ch.B., Instructor in Medicine.

Stanley A. Forward, M.D., Instructor in Medicine.
William Franklin, M.D., Instructor in Medicine.
Kenneth Fremont-Smith, M.D., Instructor in Medicine.
Robert K. Funkhouser, M.D., Instructor in Medicine.
Arthur J. Garceau, M.D., Instructor in Medicine.
H. Jack Geiger, M.D., Instructor in Medicine.
Joseph F. Gerstein, M.D., Instructor in Medicine.
Elliot Goldstein, M.D., Instructor in Medicine.
Joel C. Goldthwait, M.D., Instructor in Medicine.
Marise S. Gottlieb, M.D., Instructor in Medicine.
Kenneth M. Graham, M.D., Instructor in Medicine.
Mortimer S. Greenberg, M.D., Instructor in Medicine.
Edward B. Hager, M.D., Instructor in Medicine.
Earle I. Hammer, M.D., Instructor in Medicine.
Constantine L. Hampers, M.D., Instructor in Medicine.
John R. Hampton, Dr.Phil., Instructor in Medicine.
Elvin Harper, Ph.D., Instructor in Biological Chemistry in the Department of Medicine.
Edward D. Harris, Jr., M.D., Instructor in Medicine.
J. Warren Harthorne, M.D., Instructor in Medicine.
Michael V. Herman, M.D., Instructor in Medicine.
Joseph J. Herskovits, M.D., Instructor in Medicine.
Robert B. Holden, M.D., Instructor in Medicine.
Donald E. Holdsworth, M.D., Instructor in Medicine.
Frank A. Howard, M.D., Instructor in Medicine.
Newton E. Hyslop, Jr., M.D., Instructor in Medicine (resigned August 31, 1968).
James H. Jackson, M.D., Instructor in Medicine.
Russell L. Jeffery, M.D., Instructor in Medicine.
William S. Kaden, M.D., Instructor in Medicine.
Alan L. Kaitz, M.D., Instructor in Medicine.
Harry D. Kaloustian, M.D., Instructor in Medicine.
Edvardas Kaminskas, M.D., Instructor in Medicine.
Andrew H. Kang, M.D., Instructor in Medicine.
Paul A. Kantrowitz, M.D., Instructor in Medicine.
Parnag H. Kasarjian, M.D., Instructor in Medicine.

John A. Kastor, M.D., Instructor in Medicine.
Harvey G. Kemp, M.D., Instructor in Medicine.
Henry T. Keutmann, M.D., Instructor in Medicine.
Melvin I. Klayman, M.D., Instructor in Medicine.
Allan Kliman, M.D., Instructor in Medicine.
George P. Kozak, M.D., Instructor in Medicine.
Julius Kritzman, M.D., Instructor in Medicine.
Robert C. Leinbach, M.D., Instructor in Medicine.
Norman S. Lichtenstein, M.D., Instructor in Medicine (from March 1, 1969).
Arthur J. Lockhart, M.D., Instructor in Medicine.
Jason E. Lucas, D.M.D., M.D., Instructor in Medicine.
George W. Lynch, M.D., Instructor in Medicine.
Joseph E. Mackie, M.D., Instructor in Medicine.
James S. Mansfield, M.D., Instructor in Medicine.
Joseph A. Martino, M.D., Instructor in Medicine.
Jacob J. Matloff, M.D., Instructor in Medicine.
Edwin P. Maynard, III, M.D., Instructor in Medicine.
Donald McCaughan, M.B., Ch.B., M.D., Instructor in Medicine.
L. Tillman McDaniel, M.D., Instructor in Medicine.
William F. McNeely, M.D., Instructor in Medicine.
Antone A. Medeiros, M.D., Instructor in Medicine, and Tutor in Medical Sciences.
Judith Medoff, Ph.D., Instructor in Medicine.
Avard M. Mitchell, Ph.D., M.D., Instructor in Medicine.
Frederick L. Moolten, M.D., Instructor in Medicine.
Robert S. Morrison, M.D., Instructor in Medicine.
John H. Moxley, III, M.D., Instructor in Medicine, and Assistant to the Dean of the Faculty of Medicine.
Hyman L. Naterman, M.D., Instructor in Medicine.
Robert M. Neer, M.D., Instructor in Medicine.
Hugh D. Niall, M.D., Instructor in Medicine.
Johanna A. Pallotta, M.D., Instructor in Medicine.
William W. Parmley, M.D., Instructor in Medicine.
Carey M. Peters, M.D., Instructor in Medicine.
Arthur S. Pier, Jr., M.D., Instructor in Medicine.

Robert S. Pinals, M.D., Instructor in Medicine.
Joseph Pines, M.D., Instructor in Medicine.
Anthony J. Piro, M.D., Instructor in Medicine.
Searle B. Rees, M.D., Instructor in Medicine.
Samuel Refetoff, M.D., C.M., Instructor in Medicine (resigned April 30, 1969).
Edward S. Rendall, M.D., Instructor in Medicine.
Robert H. Resnick, M.D., Instructor in Medicine.
William A. Richards, M.D., Instructor in Medicine.
Barbara J. Rosen, M.D., Instructor in Medicine.
Howard S. Rubenstein, M.D., Instructor in Medicine.
Shaun J. Ruddy, M.D., Instructor in Medicine.
Thomas J. Ryan, M.D., Instructor in Medicine.
Elliot L. Sagall, M.D., Instructor in Medicine.
Jay H. Sanders, M.D., Instructor in Medicine.
Allan I. Sandler, M.D., Instructor in Medicine.
Gordon A. Saunders, M.D., Instructor in Medicine.
Lawrence Saxon, M.D., Instructor in Medicine.
Larry G. Seidl, M.D., Instructor in Medicine.
Albert L. Sheffer, M.D., Instructor in Medicine.
Kenneth I. Shine, M.D., Instructor in Medicine (through December 31, 1968).
James J. Sidd, M.D., Instructor in Medicine.
Irwin Singer, M.D., Instructor in Medicine.
Arthur T. Skarin, M.D., Instructor in Medicine.
Richard F. Spark, M.D., Instructor in Medicine.
Allan C. Stam, Jr., M.D., Instructor in Medicine.
Harold J. Stein, M.D., Instructor in Medicine.
Samuel W. Stein, M.D., Instructor in Medicine.
Lawrence I. Stellar, M.D., Instructor in Medicine.
Denise J. Strieder, M.D., Instructor in Medicine.
William E. Strole, Jr., M.D., Instructor in Medicine.
Louis W. Sullivan, M.D., Instructor in Medicine.
Robert H. Talkov, M.D., Instructor in Medicine.
Charles Trey, M.B., Ch.B., Instructor in Medicine.
Donald A. Tucker, M.D., Instructor in Medicine.

Robert B. Ullian, M.D., Instructor in Medicine.
Charles W. Urschel, M.D., Instructor in Medicine.
Martin D. Valentine, M.D., Instructor in Medicine.
Charles H. Weingarten, M.D., Instructor in Medicine, and Tutor in Medical Sciences.
Milton M. Weiser, M.D., Instructor in Medicine.
John C. Wells, Jr., M.D., Instructor in Medicine.
John F. Whitcomb, M.D., Instructor in Medicine.
Martin J. Wohl, M.D., Instructor in Medicine.
Michael G. Worthington, M.D., Instructor in Medicine.
George L. Bailey, M.D., Assistant in Medicine.
Clyde H. Beck, Jr., M.D., Assistant in Medicine.
William R. Bell, M.D., Assistant in Medicine.
William H. Birchard, M.D., Assistant in Medicine.
Alan C. Brewster, M.D., Assistant in Medicine.
Robert J. Carey, M.D., Assistant in Medicine.
Allen J. Criss, M.D., Assistant in Medicine.
John C. Dalton, M.D., Assistant in Medicine.
Frank C. DeGiacomo, M.D., Assistant in Medicine.
William E. Dismukes, M.D., Assistant in Medicine.
Saul J. Dobrzinsky, M.D., Assistant in Medicine.
Theodore Feldman, M.D., Assistant in Medicine.
Robert Forman, M.B., Ch.B., Assistant in Medicine.
Kenneth H. Gabbay, M.D., Assistant in Medicine.
Ralph A. Giannella, M.D., Assistant in Medicine.
Michael A. Goldstein, M.D., Assistant in Medicine.
Jacob Gottler, M.D., Assistant in Medicine.
Michael A. Gravallese, Jr., M.D., Assistant in Medicine.
Peter A. Gross, M.D., Assistant in Medicine.
Thomas Harcus, M.B., Ch.B., Assistant in Medicine.
Ernest A. Higgins, Jr., M.D., Assistant in Medicine.
Charles S. Keevil, Jr., M.D., Assistant in Medicine.
Jean A. Klastersky, M.D., Assistant in Medicine.
Susan T. Kleeman, M.D., Assistant in Medicine (resigned October 7, 1968).
Sunil R. Lahiri, M.B., B.S., Assistant in Medicine.

Howard M. Ledewitz, M.D., Assistant in Medicine.
Oliver S. Leland, Jr., M.D., Assistant in Medicine.
Stephen J. Leshin, M.D., Assistant in Medicine.
Jacob J. Lokich, M.D., Assistant in Medicine.
Abram M. London, M.D., Assistant in Medicine.
Thomas R. Mahoney, M.D., Assistant in Medicine (from December 1, 1968).
James J. Mertz, M.D., Assistant in Medicine.
Lawrence M. Miller, M.D., Assistant in Medicine.
Edward W. Moore, M.D., Assistant in Medicine.
Robert L. Morse, M.D., Assistant in Medicine.
Michael G. Moshal, M.B., Ch.B., Assistant in Medicine.
Robert E. Olson, M.D., Assistant in Medicine.
Robert K. Osborne, M.D., Assistant in Medicine.
David Paine, M.D., Assistant in Medicine.
Burton J. Polansky, M.D., Assistant in Medicine.
Sholem Postel, M.D., Assistant in Medicine.
Richmond Prescott, M.D., Assistant in Medicine.
Herman B. Segal, M.D., Assistant in Medicine.
Joel M. Seidman, M.D., Assistant in Medicine.
Ben Selling, M.D., Assistant in Medicine.
David L. Singer, M.D., Assistant in Medicine.
John H. Sisson, M.D., Assistant in Medicine.
Oscar E. Starobin, M.D., Assistant in Medicine.
Robert C. Stewart, M.D., Assistant in Medicine.
Alfred E. Stillman, M.D., Assistant in Medicine.
Richard H. Thurm, M.D., Assistant in Medicine.
Marshall A. Wolf, M.D., Assistant in Medicine.
Steven Wolfson, M.D., Assistant in Medicine (through August 21, 1968).
Richard P. Zimon, M.D., Assistant in Medicine.
Maxwell Abramson, M.D., Research Fellow in Medicine.
Neil Abramson, M.D., Research Fellow in Medicine.
William H. Admirand, M.D., Research Fellow in Medicine (through August 31, 1968).
Bruce B. Africa, Ph.D., Research Fellow in Medicine.

Kurt G. M. Alberti, M.D., Ph.D., Research Fellow in Medicine.
Morton E. Alpert, M.D., Research Fellow in Medicine.
Ezra A. Amsterdam, M.D., Research Fellow in Medicine.
Ronald J. Anderson, M.D., Research Fellow in Medicine.
Charles D. Angevine, M.D., Research Fellow in Medicine.
Komanduri M. Ayyangar, Ph.D., Research Fellow in Medicine.
Reinhard Baethke, M.D., Research Fellow in Medicine (from November 1, 1968).
John S. Banas, Jr., M.D., Research Fellow in Medicine.
Richard E. Belsey, M.D., Research Fellow in Medicine.
Marshall H. Benner, M.D., Research Fellow in Medicine.
Arthur Bergner, M.D., Research Fellow in Medicine.
David C. Bishop, Ph.D., Research Fellow in Medicine (from August 1, 1968).
Neil R. Blackow, M.D., Research Fellow in Medicine.
H. Petrus J. Bloemers, Ph.D., Research Fellow in Medicine (resigned December 15, 1968).
Guy Boileau, M.D., Research Fellow in Medicine.
Melvin C. Britton, M.D., Research Fellow in Medicine.
Harold L. Brooks, M.D., Research Fellow in Medicine.
Robert E. Brown, M.D., Research Fellow in Medicine.
John P. Burke, M.D., Research Fellow in Medicine.
Joan I. Casey, M.D., Research Fellow in Medicine.
Anthony Cerami, Ph.D., Research Fellow in Medicine.
Ramesh Chandra, Ph.D., Research Fellow in Medicine.
William L. Chick, M.D., Research Fellow in Medicine.
Edward M. Cohen, M.D., Research Fellow in Medicine.
Linda B. Cohen, Ph.D., Research Fellow in Medicine.
Clelia Collotti, M.D., Research Fellow in Medicine.
Alan J. Cooper, M.D., Research Fellow in Medicine.
Lloyd A. Culp, Ph.D., Research Fellow in Medicine (from February 1, 1969).
Peter E. Dans, M.D., Research Fellow in Medicine.
Marshall D. Denton, M.D., Research Fellow in Medicine.
Donald R. Di Bona, Ph.D., Research Fellow in Medicine.
Gerald F. Di Bona, M.D., Research Fellow in Medicine.

Robert G. Dluhy, M.D., Research Fellow in Medicine.
Marc H. Dresden, Ph.D., Research Fellow in Medicine (resigned August 31, 1968).
William J. Dube, M.D., Research Fellow in Medicine.
James I. Durodola, M.D., Research Fellow in Medicine.
Gerald L. Evans, M.D., Research Fellow in Medicine (through August 31, 1968).
Jack E. Farnham, M.D., Research Fellow in Medicine.
David Farr, M.D., Research Fellow in Medicine.
Stanley Feld, M.D., Research Fellow in Medicine.
Philip Felig, M.D., Research Fellow in Medicine.
Edward D. Finch, Ph.D., Research Fellow in Medicine.
Richard M. Finkel, M.D., Research Fellow in Medicine.
Hans P. Fisch, Lic. in Med., Research Fellow in Medicine (from September 1, 1968).
Walter Flamenbaum, M.D., Research Fellow in Medicine.
John Fletcher, M.B., Ch.B., Research Fellow in Medicine.
Lincoln E. Ford, M.D., Research Fellow in Medicine (from October 1, 1968).
James S. Forrester, M.D., Research Fellow in Medicine.
Gerald H. Friedlander, M.D., Research Fellow in Medicine.
Richard C. Gardner, M.D., Research Fellow in Medicine.
David P. Gilmour, M.D., Research Fellow in Medicine.
Aubrey D. Ginsburg, M.B., Ch.B., M.D., Research Fellow in Medicine.
Herman A. Godwin, Jr., M.D., Research Fellow in Medicine.
John M. Goldman, M.D., Research Fellow in Medicine.
Jerry Goldstone, M.D., Research Fellow in Medicine.
Reginald E. Greene, M.D., Research Fellow in Medicine (through December 31, 1968).
Jerome H. Grossman, M.D., Research Fellow in Medicine.
Christian L. Gulbrandsen, M.D., Research Fellow in Medicine.
Jacob I. Haft, M.D., Research Fellow in Medicine.
Eugenia A. Hawrylko, M.D., Research Fellow in Medicine.
William D. Heizer, M.D., Research Fellow in Medicine.
Richard H. Helfant, M.D., Research Fellow in Medicine.

Norbert Hirschhorn, M.D., Research Fellow in Medicine.
Peter N. Hirschmann, M.Sc., Research Fellow in Medicine.
Richard S. Hoffman, M.D., Research Fellow in Medicine.
Bernard Hoop, Jr., Ph.D., Research Fellow in Medicine.
Lawrence Horwitz, M.D., Research Fellow in Medicine (from August 1, 1968).
David R. Hotelling, M.D., Research Fellow in Medicine (from January 1, 1969).
Richard M. Humes, Ph.D., Research Fellow in Medicine.
Shogo Igarashi, M.D., Research Fellow in Medicine (from October 1, 1968).
William P. T. James, M.B., B.S., Research Fellow in Medicine (from September 1, 1968).
Jean-Claude Jaton, Ph.D., Research Fellow in Medicine.
Frank E. Jeffrey, M.D., Research Fellow in Medicine.
James E. Johnson, M.D., Research Fellow in Medicine.
Hugh H. Johnston, Jr., M.D., Research Fellow in Medicine.
Roderick M. H. Kater, M.B., B.S., Research Fellow in Medicine.
Chung-Yong Kim, M.D., Ph.D., Research Fellow in Medicine.
Shin-Ichi Kimata, M.D., Ph.D., Research Fellow in Medicine.
Madeleine A. Kirchberger, Ph.D., Research Fellow in Medicine.
Huxley M. Knox-Macauley, M.B., Ch.B., Research Fellow in Medicine.
Raymond S. Koff, M.D., Research Fellow in Medicine.
Yoko Kojima, M.D., Research Fellow in Medicine.
Raj Kumar, M.B., B.S., Research Fellow in Medicine.
Joseph L. Kyner, Jr., M.D., Research Fellow in Medicine.
Vita J. Land, M.D., C.M., Research Fellow in Medicine.
Paul J. Laraia, M.D., Research Fellow in Medicine.
Robert L. Lavine, M.D., Research Fellow in Medicine.
Michael Lesch, M.D., Research Fellow in Medicine.
Barry W. Levine, M.D., Research Fellow in Medicine.
Edmund J. Lewis, M.D., Research Fellow in Medicine.
Arthur J. Liedtke, M.D., Research Fellow in Medicine (from September 1, 1968).

Ezequiel Lopez-Amor, M.D., Research Fellow in Medicine (resigned October 31, 1968).

Edmund G. Lowrie, M.D., Research Fellow in Medicine.

Wilhelm F. Lubbe, M.D., Research Fellow in Medicine (through December 31, 1968).

Namiko K. MacMahon, M.D., Research Fellow in Medicine.

Ram Khelawan N. Mahabir, M.D., Research Fellow in Medicine (through December 31, 1968).

William J. Makene, M.B., Ch.B., Research Fellow in Medicine (from September 15, 1968).

Joel H. Manchester, M.D., Research Fellow in Medicine.

Roman Mangel, M.D., C.M., Research Fellow in Medicine.

Errol B. Marliss, M.D., Research Fellow in Medicine.

Yoshiro Matsuo, M.D., Research Fellow in Medicine.

Franklin D. McDonald, M.D., Research Fellow in Medicine.

Neil McIntyre, M.B., B.S., Research Fellow in Medicine (resigned August 31, 1968).

Steven G. Meister, M.D., Research Fellow in Medicine.

Orlando L. Meyers, M.B., Ch.B., Research Fellow in Medicine (resigned November 30, 1968).

William R. J. Middleton, M.B., B.S., Research Fellow in Medicine (from September 1, 1968).

Adolpho Milech, M.D., Research Fellow in Medicine (from September 1, 1968).

George Miller, M.D., Research Fellow in Medicine.

Neva Mimica, M.D., Research Fellow in Medicine.

Robert C. Moellering, Jr., M.D., Research Fellow in Medicine.

Bruce E. Morton, Ph.D., Research Fellow in Medicine.

Albert S. Most, M.D., Research Fellow in Medicine.

John B. Mulliken, M.D., Research Fellow in Medicine.

Timothy M. Murray, M.D., Research Fellow in Medicine.

Allen R. Myers, M.D., Research Fellow in Medicine.

Pradip K. Nandi, Dr.Phil., Research Fellow in Medicine.

Benjamin L. Newbern, M.D., Research Fellow in Medicine.

Claude T. Nuzum, M.D., Research Fellow in Medicine.

Robert K. Ockner, M.D., Research Fellow in Medicine (through September 30, 1968).

Robert P. Orange, M.D., Research Fellow in Medicine.

Arnold L. Oronsky, Ph.D., Research Fellow in Medicine (from September 1, 1968).

Oliver E. Owen, M.D., Research Fellow in Medicine (through August 31, 1968).

Willy N. Pachas, M.D., Research Fellow in Medicine.

Raymond Pageau, Ph.D., Research Fellow in Medicine (from July 15, 1968).

Edward F. Parsons, M.D., Research Fellow in Medicine.

Andre Pasternac, M.D., Research Fellow in Medicine (from August 1, 1968).

James J. Pepper, M.D., Research Fellow in Medicine.

Hans F. Pfeiffer, Ph.D., Research Fellow in Medicine.

Jack H. Pincus, Ph.D., Research Fellow in Medicine.

Phillip L. Poffenbarger, M.D., Research Fellow in Medicine (from September 1, 1968).

Thomas Pozefsky, M.D., Research Fellow in Medicine.

Kenneth J. Prescott, M.D., Research Fellow in Medicine.

Alberto Ramirez, M.D., Research Fellow in Medicine (through July 31, 1968).

Abdur Rashid, M.D., Research Fellow in Medicine.

Alla R. Reddy, Ph.D., Research Fellow in Medicine (resigned October 15, 1968).

Richard E. Reitz, M.D., Research Fellow in Medicine.

Heinz G. Remold, M.D., Research Fellow in Medicine.

Manuel Ribas-Mundo, M.D., Research Fellow in Medicine.

Rolf Richards, M.B., B.S., Research Fellow in Medicine.

Noel I. Robin, M.D., Research Fellow in Medicine.

Ross E. Rocklin, M.D., Research Fellow in Medicine.

Franz Rodriguez-Erdmann, M.D., Research Fellow in Medicine.

Stephen I. Rosenfeld, M.D., Research Fellow in Medicine.

Henry Rothschild, M.D., Ph.D., Research Fellow in Medicine (from September 1, 1968).

Richard A. Rudders, M.D., Research Fellow in Medicine.

Lorne A. Runge, M.D., C.M., Research Fellow in Medicine.
James D. Russell, Ph.D., Research Fellow in Medicine.
Martin R. Santis, M.D., Research Fellow in Medicine.
Martin Sarner, M.B., Research Fellow in Medicine (through September 15, 1968).
Badri N. Saxena, M.D., Milton Research Fellow in Medicine (through August 31, 1968).
Holger Schmid-Schonbein, M.D., Research Fellow in Medicine.
Paul H. Schreibman, M.D., Research Fellow in Medicine.
Theodore R. Schrock, M.D., Research Fellow in Medicine.
Howard J. Schwartz, M.D., Research Fellow in Medicine (resigned August 31, 1968).
Isam H. Shehadeh, M.D., Research Fellow in Medicine.
Michael A. Singer, M.D., Research Fellow in Medicine.
Charles B. Smith, M.D., Research Fellow in Medicine.
Marilyn S. Smith, M.D., Research Fellow in Medicine (from January 1, 1969).
Peter H. Sonksen, M.B., B.S., Research Fellow in Medicine.
Philip F. Sparling, M.D., Research Fellow in Medicine.
Daniel J. Stechschulte, M.D., Research Fellow in Medicine.
James D. Steinberg, M.D., Research Fellow in Medicine.
Wilma P. Summers, Ph.D., Research Fellow in Medicine (resigned August 3, 1968).
Hoji Suzuki, M.D., Research Fellow in Medicine.
Murrill M. Szucs, M.D., Research Fellow in Medicine.
Richard C. Talamo, M.D., Research Fellow in Medicine.
Sigrid L. Tishler, M.D., Research Fellow in Medicine.
Peter V. Tishler, M.D., Research Fellow in Medicine.
Publio Toala, M.D., Research Fellow in Medicine.
Jordan D. Tobin, M.D., Research Fellow in Medicine.
Cornelius J. Toews, M.D., Ph.D., Research Fellow in Medicine.
Bryan P. Toole, Ph.D., Research Fellow in Medicine (from October 1, 1968).
John Tyberg, Ph.D., Research Fellow in Medicine.
Laercio M. Valenca, M.D., Research Fellow in Medicine.

Kamlesh Varma, M.B., B.S., M.D., Research Fellow in Medicine (from September 1, 1968).
Surendra K. Varma, M.B., B.S., M.D., Research Fellow in Medicine (from August 1, 1968).
Walter J. Van Venrooy, Ph.D., Research Fellow in Medicine.
Francis A. Waldvogel, M.D., Research Fellow in Medicine.
Wayne A. Wallace, M.D., Research Fellow in Medicine.
Leonard Wartofsky, M.D., Research Fellow in Medicine.
William B. Weglicki, M.D., Research Fellow in Medicine.
Leonard B. Weiner, M.D., Research Fellow in Medicine.
James N. Wilfert, M.D., Research Fellow in Medicine.
Gordon H. Williams, M.D., Research Fellow in Medicine.
Dana E. Wilson, M.D., Research Fellow in Medicine.
Rodney M. Wishnow, M.D., Research Fellow in Medicine.
Lawrence C. Wood, M.D., Research Fellow in Medicine (from August 16, 1968).
Larry G. Anderson, M.D., Teaching Fellow in Medicine.
Lloyd Axelrod, M.D., Teaching Fellow in Medicine.
Charles M. Bagley, M.D., Teaching Fellow in Medicine.
Robert W. Barton, M.D., Ph.D., Teaching Fellow in Medicine.
David W. Bilheimer, M.D., Teaching Fellow in Medicine.
Dwight M. Bissell, Jr., M.D., Teaching Fellow in Medicine.
George T. Blanch, M.D., Teaching Fellow in Medicine.
Mona L. Bleiberg, M.D., Teaching Fellow in Medicine.
Peter C. Block, M.D., Teaching Fellow in Medicine.
William T. Branch, Jr., M.D., Teaching Fellow in Medicine.
Alan P. Braun, M.D., Teaching Fellow in Medicine.
Albert B. Briccetti, M.D., Teaching Fellow in Medicine.
Robert A. Buccino, M.D., Teaching Fellow in Medicine.
Thomas M. Buchanan, M.D., Teaching Fellow in Medicine.
William R. Cashion, Jr., M.D., Teaching Fellow in Medicine.
Donald Catino, M.D., Teaching Fellow in Medicine.
Winthrop H. Churchill, Jr., M.D., Teaching Fellow in Medicine.
Robert J. Clark, M.D., Teaching Fellow in Medicine.
William M. Cole, M.D., Teaching Fellow in Medicine.

S. Beach Conger, M.D., Teaching Fellow in Medicine.
Howard B. Corning, M.D., Teaching Fellow in Medicine.
Giovanni G. Costa, M.D., Ph.D., Teaching Fellow in Medicine.
Bruce C. Denny-Brown, M.D., C.M., Teaching Fellow in Medicine.
Richard K. Desser, M.D., Teaching Fellow in Medicine.
George J. DiDonna, M.D., Teaching Fellow in Medicine.
James J. Dineen, M.D., Teaching Fellow in Medicine.
Raphael Dolin, M.D., Teaching Fellow in Medicine.
Daniel Ein, M.D., Teaching Fellow in Medicine.
Leonard L. Ellman, M.D., Teaching Fellow in Medicine.
Zalman M. Falchuk, M.D., Teaching Fellow in Medicine.
Laurence B. Gardner, M.D., Teaching Fellow in Medicine.
Richard A. Garibaldi, M.D., Teaching Fellow in Medicine.
Lawrence D. Gelb, M.D., Teaching Fellow in Medicine.
John J. Glick, M.D., Teaching Fellow in Medicine.
Philip L. Goldsmith, M.D., Teaching Fellow in Medicine.
Sheldon Greenfield, M.D., Teaching Fellow in Medicine.
William Grossman, M.D., Teaching Fellow in Medicine.
Robert I. Handin, M.D., Teaching Fellow in Medicine.
David A. Hantman, M.D., Teaching Fellow in Medicine.
Edward S. Hanzelik, M.D., Teaching Fellow in Medicine.
Cyrus C. Hopkins, M.D., Teaching Fellow in Medicine.
Adolph M. Hutter, Jr., M.D., Teaching Fellow in Medicine.
David H. Jackson, M.D., Teaching Fellow in Medicine.
James B. Kahn, M.D., Teaching Fellow in Medicine.
Francois M. LaForce, M.D., Teaching Fellow in Medicine.
Donald L. Levene, M.D., Teaching Fellow in Medicine.
Robert A. Liss, M.D., Teaching Fellow in Medicine.
Matthew S. Lowenstein, M.D., Teaching Fellow in Medicine.
Dennis G. Maki, M.D., Teaching Fellow in Medicine.
Albert R. Martin, M.D., Teaching Fellow in Medicine.
Richard G. Masson, M.D., Teaching Fellow in Medicine.
William M. McCormack, M.D., Teaching Fellow in Medicine.
James C. McFarland, M.D., Teaching Fellow in Medicine.
John E. McGowan, Jr., M.D., Teaching Fellow in Medicine.

John D. Minna, M.D., Teaching Fellow in Medicine.
Dayton S. Misfeldt, M.D., Teaching Fellow in Medicine.
William E. Mitch, M.D., Teaching Fellow in Medicine.
Suzanne Oparil, M.D., Teaching Fellow in Medicine.
William J. Powell, Jr., M.D., Teaching Fellow in Medicine.
Richard W. Price, M.D., Teaching Fellow in Medicine.
Michael K. Rees, M.D., Teaching Fellow in Medicine.
Stanley J. Rosenberg, M.D., Teaching Fellow in Medicine.
Eileen A. M. Ruder, M.D., Teaching Fellow in Medicine.
Richard Sandler, M.D., Teaching Fellow in Medicine.
John C. Santos, M.D., Teaching Fellow in Medicine.
Philip P. Schein, M.D., Teaching Fellow in Medicine.
Wolfgang W. Schmidt-Nowara, M.D., Teaching Fellow in Medicine.
Anton C. Schoolwerth, M.D., Teaching Fellow in Medicine.
Steven A. Schroeder, M.D., Teaching Fellow in Medicine.
John H. Schwartz, M.D., Teaching Fellow in Medicine.
Fredric C. Shean, M.D., Teaching Fellow in Medicine.
Richard S. Shulman, M.D., Teaching Fellow in Medicine.
James S. Sidel, M.D., Teaching Fellow in Medicine.
Arthur J. Siegel, M.D., Teaching Fellow in Medicine.
Harvey B. Simon, M.D., Teaching Fellow in Medicine.
Vincent R. Sites, M.D., Teaching Fellow in Medicine.
R. Graham Smith, M.D., Teaching Fellow in Medicine.
Sidney S. Smith, M.D., Teaching Fellow in Medicine.
Thomas W. Smith, M.D., Teaching Fellow in Medicine.
Thomas C. Smitherman, M.D., Teaching Fellow in Medicine.
Alfred Sommer, M.D., Teaching Fellow in Medicine.
Robert G. Spencer, M.D., Teaching Fellow in Medicine.
Theodore I. Steinman, M.D., Teaching Fellow in Medicine.
Michael M. Stewart, M.D., Teaching Fellow in Medicine.
Thomas P. Stossel, M.D., Teaching Fellow in Medicine.
Oscar D. Taunton, M.D., Teaching Fellow in Medicine.
James O. Taylor, M.D., Teaching Fellow in Medicine.
Carlos E. Vassaux, M.D., Teaching Fellow in Medicine.
Michael D. Waterfield, Ph.D., Teaching Fellow in Medicine.

Richard M. Weinshilboum, M.D., Teaching Fellow in Medicine.
Ira W. Weiss, M.D., Teaching Fellow in Medicine.
William H. Wiese, M.D., Teaching Fellow in Medicine.

Required Courses

The time given to the Department of Medicine begins for the entire class in the second half of the second year and continues thereafter so that each student spends about one third to one quarter of his third and fourth years in the study of medicine. Additional time is provided for instruction in the Departments of Dermatology, Neurology, and Psychiatry. The techniques of instruction by the Department of Medicine include lectures, amphitheatre clinics, laboratory exercises and practical work in outpatient departments and in the hospitals. The major teaching is done with both staff and private patients, with one to four students per instructor so that individual teaching is emphasized. Throughout, an effort is made to correlate the clinical findings with the pathophysiologic disturbances which have resulted in the patient's illness and to establish in the student's mind the importance of care and precision in diagnostic and therapeutic methods as best applied to fellow human beings in our complex society.

Medicine. *Second Year.* — During the second half of the second year, the Department of Medicine in cooperation with the Departments of Pathology, Pharmacology, Surgery, Pediatrics and others participates in the teaching of pathologic physiology. This course provides an integrated approach to understanding the basic principles of disease and includes intensive instruction in laboratory methods and their interpretation. Accompanying the instruction in pathologic physiology, a course is given in the study of the patient by history taking and physical examination. For this instruction, the students are divided into groups of two or four and assigned to the four general hospitals.

Medicine. *Introduction to the Clinic.* — Beginning in the academic year 1964–65 the traditional third year course was replaced by a twelve week course entitled Introduction to the Clinic. This is

planned as an intensive training period to provide the student with the essential information, from the patient and from the laboratory, necessary for evaluation, diagnosis and management of the patient's problems. The class is divided among the four major teaching hospitals and the students spend the entire twelve week period at one institution. The teaching time during this twelve week period is divided between Medicine (including Dermatology, Neurology, Pediatrics, and Psychiatry) and Surgery (including Neurosurgery, Obstetrics and Gynecology, Orthopedics, and Urology). The teaching in Medicine is done almost entirely on the wards and in the outpatient clinics, with students assigned individual patients and their physical examinations and history taking supervised by instructors. In addition to the emphasis on obtaining information from the patients, the students, in small groups of two or three, have conferences with their instructors to discuss pathophysiologic and psychopathologic mechanisms pertaining to their patients. Weekly clinics are conducted by the senior medical staff at each hospital for the students assigned to that hospital.

Medicine. *Principal Clinical Year.* — Following the Introduction to the Clinic the students enter the Principal Clinical Year, during which they receive three months of Medicine in one of the four major teaching hospitals. During this period they serve as clinical clerks, functioning together with the intern and resident staff on the wards and in the clinics, and sharing responsibility in the study and treatment of patients under careful supervision. Rounds are made with a senior staff physician and patients are presented and thoroughly discussed.

Medicine. *Fourth Year Elective Period.* — The last five months, which follow the Principal Clinical Year, have been set aside to allow the student to take courses of his own choosing. The Department of Medicine offers a wide range of elective courses. The courses are of variable duration, from one to five months. Many one month courses are designed to afford the opportunity for students, individually or in small groups, to work in a specialty area of Medicine so as to broaden and deepen their clinical training. Some courses are offered in collaboration with other departments. Opportunities are provided for research within the Department of Medicine and the student who wishes to devote the total period to research or to various courses focussed on some particular interest may arrange to do so.

Facilities for Instruction

The instruction is given at the Medical School, the Beth Israel Hospital, the Boston City Hospital, the Massachusetts General Hospital and the Peter Bent Brigham Hospital, as well as the Robert B. Brigham Hospital and the West Roxbury Veteran's Administration Hospital. In these hospitals abundant and varied clinical material is available for the conduct of numerous exercises.

SECOND YEAR — HOURS

Pathologic physiology, including lectures and laboratory exercises. Dr. Freiman (Department of Pathology), Chairman, and Drs. Abelmann, Ingbar, Silen, Jandl, Kazemi, Krane, and other members of the Department of Medicine together with members of the Departments of Pathology, Pharmacology, Surgery, Obstetrics and Gynecology, Pediatrics, Neurology, Psychiatry, and Radiology. 538

Introductory medicine consists largely of instruction in the examination of the patient. Clinical experience is gained by students in groups of three or four assigned to each instructor for three hours on two mornings a week during the second semester. Dr. Chapman (Chairman) and coordinators at the participating hospitals: Dr. Rosoff at the B.I.H.; Dr. Hood at the B.C.H.; Dr. W. H. Baker at the M.G.H.; and Dr. Lauler at the P.B.B.H.

Together, these two courses occupy eight half-days per week during the second semester.

INTRODUCTION TO THE CLINIC

Lectures and clinics on selected topics in internal medicine. Drs. Jandl, Hiatt, Leaf, Thorn, and Associates.

Exercises in sections are held in the wards and outpatient departments at the general hospitals connected with the Medical School. The coordinator of this instruction is Dr. Leaf. Directly in charge at the B.I.H., Drs. Robinson and Lewis; at the B.C.H., Drs. Davidson and Abelmann; at the M.G.H., Dr. Foster; and at the P.B.B.H., Dr. Wacker. Students are

divided into groups of two or three per instructor and devote one-half of the twelve weeks of Introduction to the Clinic to Medicine.

PRINCIPAL CLINICAL YEAR

Clinical clerkships, three months, at B.I.H. (Drs. HIATT, LEWIS, and ASSOCIATES); B.C.H. (Dr. JANDL, and ASSOCIATES); M.G.H. (Dr. LEAF and ASSOCIATES); P.B.B.H. (Drs. THORN, ULMER, and ASSOCIATES).

*Fourth Year Elective Courses**

BLOCK COURSES

501M. Infectious Diseases — Dermatology. Drs. FEINGOLD, STEIGBIGEL, I. FREEDBERG and ARNDT.
502M. Hematology. Drs. ROBINSON, SCHLOSSMAN, and REICH.
503M. Gastroenterology. Drs. L. ZETZEL and PLOTKIN.
505M. Vascular Diseases. Drs. DEYKIN and SALZMAN. (*Same course as Surgery 535M.*)
506M. Cardiology. Drs. KURLAND, LINENTHAL, ZOLL, and MORKIN.
508M. Endocrinology and Metabolism. Drs. SHERWOOD, GOLDBERG, DAVIDOFF, and SCHNEIDER.
509M. Renal and Electrolyte Disorders. Drs. H. FRAZIER and NESSON.
510M. Cardiology. Drs. ABELMANN, ELLIS, and ASSOCIATES.
511M. Diabetes and Metabolism. Drs. HURWITZ, ARKY, and ASSOCIATES.
512M. Endocrinology. Dr. INGBAR and ASSOCIATES.
513M. Hematology. Dr. JANDL and ASSOCIATES.
514M. Clinical Liver Disease and Gastroenterology. Drs. DAVIDSON, ZAMCHECK, and ASSOCIATES. (*Same course as Pathology 512M.*)
515M. Disturbances of Nutrition in Clinical Medicine. Dr. DAVIDSON and ASSOCIATES.
517M. Cardiovascular Diseases. Drs. HABER, J. KOCH-WESER, SANDERS, W. G. AUSTEN, and ASSOCIATES.
518M. Diabetes. Dr. MARTIN and ASSOCIATES.
519M. Gastrointestinal Diseases. Dr. ISSELBACHER and ASSOCIATES.
520M. Hematology. Dr. BECK and ASSOCIATES.
521M. Pulmonary Diseases. Dr. KAZEMI and ASSOCIATES.
522M. Renal Diseases. Dr. THIER and ASSOCIATES.
523M. Thyroid Disease. Dr. MALOOF and ASSOCIATES.
524M. Arthritis. Dr. KRANE and ASSOCIATES.
525M. Endocrinology. Dr. FEDERMAN and ASSOCIATES.
526M. General Endocrinology. Dr. FEDERMAN and ASSOCIATES.
527M. Infectious Disease. Dr. SWARTZ and ASSOCIATES.
528M. Cardiology and Cardiovascular Regulation. Drs. GORLIN, HICKLER, LAULER and SONNENBLICK.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

530M. Endocrinology — Metabolism. Drs. Cahill, Soeldner, and Steinke.
531M. Endocrinology — Metabolism. Dr. Marble.
532M. Endocrinology — Metabolism. Dr. Dingman.
533M. Endocrinology — Metabolism. Drs. Lauler and Thorn.
534M. Endocrinology — Metabolism. Dr. Selenkow.
535M. Gastroenterology. Dr. Snodgrass and Associates.
536M. Hematology. Dr. W. Moloney.
537M. Microbiology. Dr. O'Brien.
538M. Renal and Cardiorenal. Dr. Merrill.
539M. Comprehensive Medical Care. Drs. Farnsworth, Prout, Postel, Blaine and Associates of the Health Services of Harvard University.
540M. Dermatology. Dr. I. Freedberg. (*Same course as Dermatology 501M.*)
541M. Functional Anatomy, Biomechanics, and Reconstructive Surgery. Drs. Kermond and Pierce. (*Same course as Orthopedic Surgery 504M.*)
542M Advanced Internal Medicine. Drs. Davidson, Ingbar, Jandl, Kass, and Associates.
543M. Advanced Medicine. Drs. Warthin, Littmann, Sasahara, and Associates.
544M. Cardiology, Electrocardiography. Dr. Littmann and Associates.
545M. Infectious Diseases. Drs. Kass, Finland, and Associates.
548M. Clinical Gastrointestinal Disease. Drs. Culver, Ellis, and Point.
549M. Clinical Cardiology. Dr. Dexter.
550M. Clinical Cardiology. Dr. Gorlin.
551M. Advanced Internal Medicine. Dr. Hurwitz and Associates.
552M. General Medicine. Drs. Nichols, E. S. Hellman and Associates.
553M. Ambulatory Medical Care: Planning and Operation. Dr. Davidson, and Associates.
554M. Hematology. Dr. Nathan and Associates. (*See also Pediatrics 510M.*)
556M. Rheumatology. Dr. K. F. Austen and Associates.
557M. Infectious Diseases. Drs. Feingold, Kass, D. H. Smith, Swartz and O'Brien.
558M. Hematology, Dr. Tullis and Associates.
559M. Oncology. Dr. Tullis and Associates.
560M. Computers and Clinical Problems. Dr. Bleich.
561. Nuclear Medicine. Dr. Schneider.
562M. Infectious Diseases. Drs. Feingold and Steigbigel.
563M. Tele-diagnosis. Dr. Bird.
564M. Community Practice. Dr. Cadigan.

LONGITUDINAL COURSES

703. Atopic Allergic Disease. Dr. Lowell and Associates.
705. Electrocardiography. Dr. H. D. Levine.
706. Microcirculation and Rheology of Blood. Dr. Wells.
707. Endocrinology — Metabolism. Dr. Emerson.
710. Biomathematics. Dr. Kesselman.

711. Computer Methods. Dr. Kesselman.
713. Pulmonary Physiology. Dr. Bass.
714. Comprehensive Medical Care. Drs. Farnsworth, Prout, Postel, Blaine, and Associates of the Health Services of Harvard University.
715. Clinical and Investigative Gastroenterology. Dr. Osborne and Associates and Dr. Zamcheck and Associates. (*Same course as Surgery 703.*)
716. Pharmacotherapeutics. Dr. J. Koch-Weser, Associates, and Members of the Department of Medicine. (*Same course as Pharmacology 702.*)
721. Applications of Computer Science to Clinical Medicine. Dr. G. O. Barnett and Associates.
722. Understanding the Patient in Context of Medical Practice. Drs. Funkhouser and Reich.
723. Determinants of Drug Response in Neoplasms. Drs. Kessel and Reys. (*Same course as Interdepartmental Course 758.*)
724. Medicine, Technology, and the Law. Professor Curran. Not offered in 1968–1969.

Department of Neurobiology

Stephen W. Kuffler, M.D., A.M. (hon.), M.D. (hon.), Robert Winthrop Professor of Neurobiology, and Head of the Department.

David H. Hubel, M.D., A.M. (hon.), George Packer Berry Professor of Neurobiology.

Torsten N. Wiesel, M.D., A.M. (hon.), Professor of Neurobiology.

Richard P. Bunge, M.D., Visiting Professor of Neurobiology (from September 1, 1968).

Edwin J. Furshpan, Ph.D., A.M. (hon.), Associate Professor of Neurobiology.

Edward A. Kravitz, Ph.D., A.M. (hon.), Associate Professor of Neurobiology.

John G. Nicholls, Ph.D., M.B., B.S., Associate Professor of Neurobiology.

David D. Potter, Ph.D., Associate Professor of Neurobiology.

Zach W. Hall, Ph.D., Assistant Professor of Neurobiology (from September 1, 1968).

Robert B. Bosler, Research Associate in Neurobiology.

Mary B. Bunge, Ph.D., Research Associate in Neurobiology (from September 1, 1968).

David C. Freeman, S.B., Research Associate in Neurobiology.

Mary A. Hogan, A.B., Research Associate in Neurobiology.

Janet T. Wiitanen, A.B., Research Associate in Neurobiology.

M(arlin) Deric Bownds, Ph.D., Instructor in Neurobiology.

Dennis C. H. Bray, Ph.D., Instructor in Neurobiology.

Michael J. Dennis, Ph.D., Instructor in Neurobiology.

Uel J. McMahan, II, Ph.D., Instructor in Neurobiology.

Paula M. Orkand, Ph.D., Instructor in Neurobiology (resigned November 30, 1968).

Judson D. Sheridan, D.Phil., Instructor in Neurobiology (through August 31, 1968).

Clarke R. Slater, Ph.D., Instructor in Neurobiology.

Barbara G. Wickelgren, Ph.D., Instructor in Neurobiology.
Monroe W. Cohen, Ph.D., Research Fellow in Neurobiology (through August 31, 1968).
Nigel W. Daw, Ph.D., Research Fellow in Neurobiology.
Hersch M. Gerschenfeld, M.D., Research Fellow in Neurobiology (through September 30, 1968).
Arthur J. Harris, Ph.D., Research Fellow in Neurobiology (from September 1, 1968).
Akimichi Kaneko, M.D., Ph.D., Research Fellow in Neurobiology (from September 1, 1968).
Alan L. Pearlman, M.D., Research Fellow in Neurobiology.
Eric Frank, A.B., Teaching Fellow in Neurobiology.
Robert M. Grossfeld, Ph.D., Teaching Fellow in Neurobiology.
Nicholas C. Spitzer, A.B., Teaching Fellow in Neurobiology.
David C. Vanessen, S.B., Teaching Fellow in Neurobiology.

Required Course

Neurobiology. *First Year* (*new program*) — Lectures and conferences given in collaboration with the Departments of Anatomy, Neuropathology, Pharmacology and Physiology. Three lectures on the ionic basis of nerve cell activity are given in the Cell Physiology section of the first semester. Further lectures on synaptic transmission, neurochemistry and integrative activities are given in Human Biology II at the end of the first year. The importance of the cellular connections is emphasized both from the physiological and anatomical points of view; certain well-studied systems are considered in detail.

FIRST YEAR	HOURS
Lectures and Conferences. Drs. Kuffler, Hubel, and Associates	118

*Fourth Year Elective Course**

LONGITUDINAL COURSE

701. Physiology and Chemistry of Synaptic Transmission. Drs. Kuffler, Furshpan, D. D. Potter, and Kravitz. (*Same course as Neurobiology 301, Faculty of Arts and Sciences.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Neurology

Raymond D. Adams, M.D., A.M. (hon.), Bullard Professor of Neuropathology, Head of the Department at the Massachusetts General Hospital, and Chairman of the Executive Committee of the Department of Neurology.

Charles F. Barlow, M.D., A.M. (hon.), Bronson Crothers Professor of Neurology, and Head of the Department at The Children's Hospital.

Norman Geschwind, M.D., James Jackson Putnam Professor of Neurology (from January 1, 1969), and Head of the Department at the Boston City Hospital.

Derek E. Denny-Brown, Dr.Phil., M.D., A.M. (hon.), Professor of Neurology.

Alfred Pope, M.D., Professor of Neuropathology at the McLean Hospital.

Richard L. Sidman, M.D., Professor of Neuropathology, and Tutor in Neurology.

C. Miller Fisher, M.D., Associate Clinical Professor of Neurology.

Simeon Locke, M.D., Associate Clinical Professor of Neurology.

Robert S. Schwab, M.D., Associate Clinical Professor of Neurology.

H. Richard Tyler, M.D., Associate Clinical Professor of Neurology.

Barry G. W. Arnason, M.D., Assistant Professor of Neurology at the Massachusetts General Hospital.

Samuel H. Epstein, M.D., Assistant Clinical Professor of Neurology.

Cesare T. Lombroso, M.D., Assistant Clinical Professor of Neurology.

Chaim I. Mayman, M.D., Assistant Professor of Neurology at the Beth Israel Hospital.

Hugo W. Moser, M.D., Assistant Professor of Neurology at the Massachusetts General Hospital.

David C. Poskanzer, M.D., Assistant Professor of Neurology at the Massachusetts General Hospital.

Edward P. Richardson, Jr., M.D., Assistant Professor of Neuropathology at the Massachusetts General Hospital.

Flaviu C. A. Romanul, M.D., Assistant Professor of Neurology, and Acting Head of the Department at the Boston City Hospital through December 31, 1968.

Maria Z. Salam, M.D., Assistant Clinical Professor of Neurology.

Murray Sidman, Ph.D., Assistant Professor of Psychology in the Department of Neurology at the Massachusetts General Hospital.

William H. Timberlake, M.D., Assistant Clinical Professor of Neurology.

Karl E. Astrom, M.D., Ph.D., Visiting Assistant Professor of Neuropathology.

Federico R. Jeri, M.D., Visiting Assistant Professor of Neurology (through September 15, 1968).

Arthur K. Asbury, M.D., Associate in Neurology at the Massachusetts General Hospital.

Robert W. P. Cutler, M.D., Associate in Neurology (resigned August 31, 1968).

David M. Dawson, M.D., Associate in Neurology.

Floyd H. Gilles, M.D., Clinical Associate in Neurology.

Vincent P. Perlo, M.D., Clinical Associate in Neurology.

Ernest H. Picard, M.D., Associate in Neurology at the Massachusetts General Hospital.

Mary L. L. Scholl, M.D., Clinical Associate in Neurology.

Gordon V. Watters, M.D., Associate in Neurology at The Children's Hospital.

Gerald F. Winkler, M.D., Clinical Associate in Neurology.

Robert R. Young, M.D., Associate in Neurology at the Massachusetts General Hospital.

Robert G. Feldman, M.D., Lecturer on Neurology.

N. Paul Rosman, M.D., C.M., Lecturer on Neurology.

John S. Barlow, S.M., M.D., Research Associate in Neurology.

William F. Caveness, M.D., Research Associate in Neurology (from September 1, 1968).

Helen H. Hess, M.D., Research Associate in Neuropathology.

Werner Jacobson, M.D., Ph.D., Research Associate in Neuropathology (through July 31, 1968).

Fred J. Julian, M.D., Research Associate in Neuropathology.

Edwin J. Kirk, B.V.Sc., Research Associate in Neurology.

Harry A. Mackay, Ph.D., Research Associate in Psychology in the Department of Neurology.

Bela F. Nagy, Ph.D., Research Associate in Neuropathology.

Barbara A. Ray, Ph.D., Research Associate in Psychology in the Department of Neurology.

John C. Seidel, Ph.D., Research Associate in Neuropathology.

Frank A. Sreter, M.D., Research Associate in Neuropathology.

Lawrence T. Stoddard, Ph.D., Research Associate in Psychology in the Department of Neurology.

Irving Zieper, M.D., Research Associate in Neurology (from October 1, 1968).

John R. Baringer, M.D., Instructor in Neuropathology.

Mandel E. Cohen, M.D., Instructor in Neurology.

Helen F. Cserr, Ph.D., Instructor in Physiology in the Department of Neurology (from September 1, 1968).

George R. Delong, M.D., Instructor in Neurology.

Laurence J. Embree, M.D., Instructor in Neurology.

Albert C. England, Jr., M.D., Instructor in Neurology.

T. Corwin Fleming, M.D., Instructor in Neurology.

Elizabeth T. Hedley-Whyte, M.D., Instructor in Neuropathology

Thomas L. Kemper, M.D., Instructor in Neuropathology.

Harry L. Levy, M.D., Instructor in Neurology.

Antonio V. Lorenzo, Ph.D., Instructor in Pharmacology in the Department of Neurology.

Howard D. McIntyre, Jr., M.D., Instructor in Neurology.

Leonard D. Osler, M.B., Ch.B., M.D., Instructor in Neurology.

Donald H. Osterberg, M.D., Instructor in Neurology.

Bertram Selverstone, M.D., Instructor in Neurology.

Vivian E. Shih, M.B., Ch.B., Instructor in Neurology.
Karel van S. Toll, M.D., Instructor in Neurology.
Parker A. Towle, M.D., Instructor in Neurology.
Stephen L. Wanger, M.D., Instructor in Neurology (from January 1, 1969).
Robert E. Flynn, M.D., Assistant in Neurology.
Benjamin Matzilevich, M.D., Assistant in Neurology.
Paul E. Touchette, Ed.D., Assistant in Psychology in the Department of Neurology.
Israel F. Abroms, M.B., Ch.B., Research Fellow in Neurology.
Robert H. Ackerman, M.D., Research Fellow in Neurology.
Abdel R. Adwani, M.B.B.S., Research Fellow in Neurology.
Bruno Agostini, M.D., Research Fellow in Neuropathology.
Horatio R. Aldredge, III, M.D., Research Fellow in Neuropathology.
Catherine J. M. Bonnet, M.D., Research Fellow in Neurology (from September 1, 1968).
Walter G. Bradley, M.B., Ch.B., Research Fellow in Neuropathology (from October 1, 1968).
Michael J. Bresnan, M.B., Ch.B., Research Fellow in Neurology.
Fredric K. Cantor, M.D., Research Fellow in Neurology.
Louis R. Caplan, M.D., Research Fellow in Neurology.
William S. Connor, M.D., Research Fellow in Neurology.
Ruggero Corazza, M.D., Research Fellow in Neurology (from October 1, 1968).
Robert F. Cullen, Jr., M.D., Research Fellow in Neurology.
Thierry W. Deonna, Dip. Med., Research Fellow in Neurology.
Elizabeth C. Dooling, M.D., Research Fellow in Neuropathology.
Marshall G. Elzinga, Ph.D., Research Fellow in Neuropathology.
Hilton L. Fowler, M.D., Research Fellow in Neurology.
Myron D. Ginsberg, M.D., Research Fellow in Neurology.
John F. Griffith, M.D., Research Fellow in Neurology.
Rebecca A. Hanson, M.D., Research Fellow in Neurology.
Kenneth M. Heilman, M.D., Research Fellow in Neurology.

Klaus-Peter Herberg, M.D. (equiv.), Research Fellow in Neurology.

Archer D. Huott, M.D., Research Fellow in Neurology.

Gabor B. Huszar, M.D., Research Fellow in Neuropathology.

Olajide A. Idowu, M.B., B.Ch., Research Fellow in Neurology.

Angkana Indarakoses, M.D., Research Fellow in Neurology.

Surendra Kaul, M.D., Research Fellow in Neurology.

Raymond J. Lasek, Ph.D., Research Fellow in Neuropathology (resigned August 31, 1968).

Sherwin S. Lehrer, Ph.D., Research Fellow in Neuropathology.

James R. Lehrich, M.D., Research Fellow in Neurology.

Jonathan Leicester, M.B., B.S., Research Fellow in Neurology.

Donald R. McLean, M.D., Research Fellow in Neurology.

John K. Martin, M.B., B.S., Research Fellow in Neuropathology (through December 11, 1968).

Mukteshwar L. Mehra, M.D., Research Fellow in Neurology.

Andre E. Merminod, M.D., Research Fellow in Neurology (from October 1, 1968).

Michael J. Moore, M.D., Research Fellow in Neuropathology.

Christa U. Muckenhausen, M.D., Research Fellow in Neurology.

Jerome V. Murphy, M.D., Research Fellow in Neuropathology.

Devika Nag, M.D., Research Fellow in Neurology.

Kenneth K. Nakano, M.D., Research Fellow in Neurology.

Surl L. Nielsen, M.D., Research Fellow in Neuropathology.

Margaret G. Norman, M.D., Research Fellow in Neuropathology.

Eileen M. Ouellette, M.D., Research Fellow in Neuropathology.

Nicholas M. Panagiotis, M.D., Research Fellow in Neurology.

George Perlstein, M.D., Research Fellow in Neurology.

Donald L. Price, M.D., Research Fellow in Neuropathology.

Manuel Ramirez-Lassepas, M.D., Research Fellow in Neurology.

Michael P. Remler, M.D., Research Fellow in Neurology.

Joel S. Richmon, M.D., Research Fellow in Neurology.

Howard A. Richter, M.D., Research Fellow in Neuropathology (through December 31, 1968).
Seelig D. Saffer, M.D., Research Fellow in Neurology.
Sidney Sament, M.B., Ch.B., Research Fellow in Neurology.
Henry H. Schmidek, M.D., Research Fellow in Neuropathology (from January 1, 1969).
William C. Schoene, M.D., Research Fellow in Neuropathology.
Robert A. T. Scott, M.D., Research Fellow in Neurology.
William R. Scott, M.D., Research Fellow in Neurology.
John R. Seals, M.D., Research Fellow in Neurology.
K. Taranath Shetty, M.D., Research Fellow in Neurology.
Ikuko Shirahige, M.D., Ph.D., Research Fellow in Neurology (through August 31, 1968).
Everard J. Siller, M.D., Research Fellow in Neurology.
Denis Simard, M.D., Research Fellow in Neurology.
S. Robert Snodgrass, M.D., Research Fellow in Neurology.
Alexander M. Spence, M.D., Research Fellow in Neurology.
Lyle J. Strand, M.D., Research Fellow in Neurology.
Hilda Tawil, M.D., Research Fellow in Neurology.
Edward Valenstein, M.D., Research Fellow in Neurology.
David H. Van Dyke, M.D., Research Fellow in Neurology.
Antonio J. Vitug, M.D., Research Fellow in Neurology.
Joseph J. Volpe, M.D., Research Fellow in Neurology.
Edward R. Wolpow, M.D., Research Fellow in Neuropathology.
Bryan T. Woods, M.D., Research Fellow in Neurology.
Liza Yessayan, M.D., Research Fellow in Neurology.
Takeo Yogo, M.D., Sc.D., Research Fellow in Neurology.
Generoso G. Gascon, M.D., Teaching Fellow in Neurology.

Required Courses

During the academic year 1968–69, two programs of instruction are in effect. The first year class is participating in a new curriculum, while the second year class is completing the "old" program. In subsequent years the first year course only will be offered.

Neurology. *First Year* (*new program*). — The department participates in the instruction during Human Biology II.

NEUROLOGY. *Second Year.* — Clinical lectures are given at the Boston City and Massachusetts General Hospitals to the entire class. The object of the course is to give the student a general knowledge of the principles of diagnosis of diseases of the nervous system as a preparation for later work.

NEUROLOGY. *Introduction to the Clinic.* — Individual instruction in case taking will be given during that part of the twelve-week period assigned to Medicine. Each student will spend approximately six four-hour sessions with his instructor, and will have two orientation lectures in addition.

NEUROLOGY. *Principal Clinical Year.* — A three-week clerkship is required of each student during the Principal Clinical Year and it may be taken at the B.C.H., M.G.H., or C.H.M.C.-P.B.B.H. For this work the more didactic teaching of the second year serves as a necessary preparation. The work is practical in character and brings the student into immediate contact with patients.

FIRST YEAR	HOURS
Participation in Human Biology II.	
SECOND YEAR	
Clinical lectures. Dr. ADAMS, M.G.H., Dr. LOCKE, B.C.H. and STAFF.	10
INTRODUCTION TO THE CLINIC	
Clinical instruction. Dr. ADAMS, M.G.H., Dr. C. F. BARLOW, C.H.M.C., and Dr. LOCKE, B.C.H.	26
PRINCIPAL CLINICAL YEAR	
Clinical Clerkship. Dr. ADAMS, M.G.H., Dr. C. F. BARLOW, C.H.M.C., and Dr. LOCKE, B.C.H.	120

Fourth Year Elective Courses *

BLOCK COURSES

502M. Advanced Study in Neuropathology. Dr. ROMANUL. (*Same course as Pathology 513M.*)

503M. Pediatric Neurology. Dr. C. F. BARLOW. (*Same course as Pediatrics 517M.*)

504M. Advanced Study in Clinical Neurology. Dr. TIMBERLAKE.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

505M. Advanced Study in Clinical Neurology. Dr. R. D. Adams.
506M. Pediatric Neurology. Dr. Adams. (*Same course as Pediatrics 522M.*)
507M. Pediatric Neurology. Drs. Adams and Rosman. (*Same course as Pediatrics 523M.*)
508M. Pediatric Neurology. Dr. Moser. (*Same course as Pediatrics 524M.*)
509M. Advanced Study in Neuropathology. Dr. E. P. Richardson. (*Same course as Pathology 514M.*)
510M. Advanced Studies in Clinical Neurology. Dr. Tyler.
511M. Neurology and Preventive Medicine. Dr. Poskanzer. (*Same course as Preventive Medicine 504M.*)
512M. Advanced Studies in Seizure Disorders. Dr. Lombroso.

LONGITUDINAL COURSES

701. Advanced Studies in Clinical Neurology. Drs. Tyler, Cutler, and Dawson.
702. History and Development of Neurology and the Neurological Sciences. Dr. Tyler.

Neuropathology

Required Course

During the academic year 1968–69 two programs of instruction are in effect. The first year class is participating in a new curriculum, while the second year class is completing the "old" program. In subsequent years the first year course only will be offered.

Neuropathology. *First Year* (*new program*). — Instruction in collaboration with other departments takes place during Human Biology II.

Neuropathology. *Second Year.* — The course consists of lectures, laboratory work, and demonstrations, amounting to fifty-seven hours. The lectures introduce conceptions of value for the third year courses in neurology and psychiatry and for the neurological parts of courses in internal medicine and in surgery. Microscopical and gross specimens are studied.

FIRST YEAR — HOURS

Participation in lectures, conferences and laboratory sessions of Human Biology II.

SECOND YEAR

Lectures and laboratory work. Dr. Adams and Staff. Six times a week, for three and one-half weeks. 57

Fourth Year Elective Courses (See page 171)

Department of Obstetrics and Gynecology

Duncan E. Reid, M.D., A.M. (hon.), William Lambert Richardson Professor of Obstetrics, Kate Macy Ladd Professor of Obstetrics and Gynecology, and Head of the Department.

Hilton A. Salhanick, Ph.D., M.D., Professor of Obstetrics and Gynecology.

Somers H. Sturgis, M.D., Clinical Professor of Gynecology.

Howard Ulfelder, M.D., Joe Vincent Meigs Professor of Gynecology.

Charles L. Easterday, M.D., Associate Clinical Professor of Obstetrics and Gynecology.

Francis M. Ingersoll, M.D., Associate Clinical Professor of Gynecology.

Janet W. McArthur, M.D., S.D. (hon.), Associate Clinical Professor of Obstetrics and Gynecology.

Bernardo A. Santamarina, M.D., Associate Clinical Professor of Obstetrics and Gynecology.

Paul A. Younge, M.D., Associate Clinical Professor of Gynecology.

Joseph J. Barlow, M.D., Assistant Professor of Obstetrics and Gynecology.

Christopher J. Duncan, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Thomas H. Green, Jr., M.D., Assistant Clinical Professor of Gynecology.

John F. Jewett, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Robert W. Kistner, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

William J. Mulligan, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Melvin L. Taymor, M.D., Assistant Clinical Professor of Gynecology.

Robert H. Barker, M.D., Clinical Associate in Obstetrics and Gynecology.

Theodore C. Barton, M.D., Associate in Obstetrics and Gynecology, and Tutor in Medical Sciences.

Luke Gillespie, M.D., Associate in Obstetrics and Gynecology at the Boston Hospital for Women (Lying-in Division).

Donald P. Goldstein, M.D., Associate in Obstetrics and Gynecology.

Arthur L. Herbst, M.D., Clinical Associate in Obstetrics and Gynecology.

Harold W. Rubin, M.D., Clinical Associate in Obstetrics and Gynecology.

David Charles, M.B., B.S., Lecturer on Obstetrics and Gynecology.

Angelyn A. Konugres, Ph.D., Research Associate in Obstetrics and Gynecology.

John A. MacLaren, Ph.D., Research Associate in Obstetrics and Gynecology.

Leona Zacharias, Ph.D., Research Associate in Obstetrics and Gynecology.

Maurice O. Belson, M.D., Instructor in Obstetrics and Gynecology.

S. Michael Berger, M.B., Ch.B., Instructor in Obstetrics and Gynecology.

Max J. Bulian, M.D., Instructor in Obstetrics and Gynecology.

Louis Burke, M.D., Instructor in Obstetrics and Gynecology.

John J. Driscoll, M.D., Instructor in Obstetrics and Gynecology.

Fredric D. Frigoletto, M.D., Instructor in Obstetrics and Gynecology.

A. Gordon Gauld, M.D., Instructor in Obstetrics and Gynecology.

Sumner H. Gochberg, M.D., Instructor in Obstetrics and Gynecology, and Tutor in Medical Science.

Arthur C. Gorbach, M.D., Instructor in Obstetrics and Gynecology.

Ward I. Gregg, M.D., Instructor in Gynecology.

Charles T. Griffiths, M.D., Instructor in Obstetrics and Gynecology.

John W. Grover, M.D., Instructor in Obstetrics and Gynecology.

Crawford H. Hinman, M.D., Instructor in Obstetrics and Gynecology.

Ruby G. Jackson, M.D., C.M., Instructor in Obstetrics and Gynecology.

David E. Kopans, M.D., Instructor in Obstetrics and Gynecology.

Harold J. Kosasky, M.D., Instructor in Obstetrics and Gynecology.

Francis R. Lane, M.D., Instructor in Obstetrics and Gynecology.

Thomas Leavitt, Jr., M.D., Instructor in Obstetrics and Gynecology.

Herbert T. Leighton, M.D., Instructor in Obstetrics and Gynecology.

Lawrence J. Malone, M.D., Instructor in Obstetrics and Gynecology.

Jacob Mezer, M.D., Instructor in Obstetrics and Gynecology.

John L. Newell, M.D., Instructor in Obstetrics and Gynecology.

Peter G. Robbins, M.D., Instructor in Obstetrics and Gynecology.

George M. Ryan, Jr., M.D., Instructor in Obstetrics and Gynecology.

Leonard E. Safon, M.D., Instructor in Obstetrics and Gynecology.

Weston F. Sewall, M.D., Instructor in Obstetrics and Gynecology.

Lloyd I. Sexton, M.D., Instructor in Obstetrics and Gynecology.

Sumner A. Smith, M.D., Instructor in Obstetrics and Gynecology.

Bartlett H. Stone, M.D., Instructor in Obstetrics and Gynecology.

Arthur W. Tucker, M.D., Instructor in Obstetrics and Gynecology.

Albert E. Weiner, M.D., Instructor in Obstetrics and Gynecology.

David Weintraub, M.D., Instructor in Obstetrics and Gynecology.

Clement Yahia, M.D., Instructor in Obstetrics and Gynecology.

Ralph D. Aserkoff, M.D., Assistant in Obstetrics and Gynecology.

James H. Austin, M.D., Assistant in Obstetrics and Gynecology.

Herbert E. Brooks, Jr., M.D., Assistant in Obstetrics and Gynecology.

Dick A. J. Brown, M.D., Assistant in Obstetrics and Gynecology.

Robert W. Brown, M.D., Assistant in Obstetrics and Gynecology.

Ernest P. Davidow, M.D., Assistant in Obstetrics and Gynecology.

Thomas J. Dowd, M.D., Assistant in Obstetrics and Gynecology

Charles F. Eades, M.D., Assistant in Obstetrics and Gynecology.

Herbert W. Horne, Jr., M.D., Assistant in Obstetrics and Gynecology.

Albert Y. Kevorkian, M.D., Assistant in Gynecology.

Jack H. Marcovitch, M.D., Assistant in Obstetrics and Gynecology.

Robert Marnoy, M.D., Assistant in Obstetrics and Gynecology.

John B. McCann, M.D., Assistant in Obstetrics and Gynecology.

Joseph H. Phillips, M.D., Assistant in Gynecology.

Benjamin E. Potter, M.D.C.M., Assistant in Obstetrics and Gynecology.

Seymour Sacks, M.D., Assistant in Obstetrics and Gynecology.

Arthur J. Schramm, M.D., Assistant in Obstetrics and Gynecology.

Robert L. Shirley, M.D., Assistant in Obstetrics and Gynecology.

Phillip Smith, M.D., Assistant in Obstetrics and Gynecology.

Stephen B. Smith, M.D., Assistant in Obstetrics and Gynecology.

Sidney Stahler, M.D., Assistant in Obstetrics and Gynecology.

Joseph S. Wallace, M.D., Assistant in Obstetrics and Gynecology.

Robert E. Wheatley, M.D., Assistant in Obstetrics and Gynecology.

Ann R. B. Barnes, M.D., Research Fellow in Obstetrics and Gynecology.

Howard L. Judd, M.D., Research Fellow in Obstetrics and Gynecology.

Mithu Kothari, M.B., B.S., Research Fellow in Obstetrics and Gynecology.

Jun Miyata, M.D., Research Fellow in Obstetrics and Gynecology (through April 14, 1969).

Henry W. Vaillant, M.D., Research Fellow in Obstetrics and Gynecology (resigned August 31, 1968).

Marvin A. Yussman, M.D., Research Fellow in Obstetrics and Gynecology.

James E. Zuckerman, M.D., Research Fellow in Obstetrics and Gynecology.

Jean A. Arakgui, M.B., Ch.B., Teaching Fellow in Obstetrics and Gynecology.

David S. Bard, M.D., Teaching Fellow in Obstetrics and Gynecology (through September 30, 1968).

Kenneth E. Blotner, M.D., Teaching Fellow in Obstetrics and Gynecology (through December 31, 1968).

Jose A. Borrero, M.D., Teaching Fellow in Obstetrics and Gynecology.

J. Gregory Kane, M.D., Teaching Fellow in Obstetrics and Gynecology.

Il Kim, M.D., Teaching Fellow in Obstetrics and Gynecology.

Marshall D. Levine, M.D., Teaching Fellow in Obstetrics and Gynecology.

Robert H. Margulis, M.D., Teaching Fellow in Obstetrics and Gynecology (through March 31, 1969).

S. Scott Sudduth, M.D., Teaching Fellow in Obstetrics and Gynecology.

Required Courses

Obstetrics and Gynecology. *Second Year.* — Whole class exercises in conjunction with the Departments of Medical Science and the

several clinical disciplines, covering the broad aspects of the physiology and pathophysiology of reproduction and femaleness. Emphasis is placed on embryology, pathology, and endocrinology of the reproductive systems, both male and female.

Obstetrics and Gynecology. *Introduction to the Clinic.* — Instruction will be given in participation with other clinical departments.

Obstetrics and Gynecology. *Principal Clinical Year.* — The student devotes six weeks to clinical Obstetrics and Gynecology at the Boston City Hospital, the Beth Israel Hospital, the Boston Hospital for Women, and the Massachusetts General Hospital He participates in the management of labor and delivery and takes part in the care of the mother and her infant during their hospital stay. He also receives instruction in the interaction of medical and surgical disease in pregnancy and in gynecological conditions, and assists at operations. In addition, he attends Obstetric and Medical Grand Rounds, Clinicopathological Conferences, and clinical seminars throughout the course.

SECOND YEAR	HOURS
Participation in pathophysiology endocrine system.	18

INTRODUCTION TO THE CLINIC

Practical instruction and seminars in clinical obstetrics and gynecology.

PRINCIPAL CLINICAL YEAR

Clinical obstetrics and gynecology. Drs. Reid, Sturgis, Ulfelder, and Associates.	240

Fourth Year Elective Courses *

BLOCK COURSES

502M. Fertility and Endocrinology. Dr. Mulligan.
503M. Ovarian Endocrinology. Dr. Kistner.
506M. Obstetrical Anesthesia and Analgesia. Dr. J. B. Weiss.
507M. Advanced Obstetrics and Gynecology. Dr. Reid and Associates.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

511M. Comprehensive Gynecology. Dr. S. H. Sturgis. (*Same course as Surgery 524M.*)

512M. Gynecologic Endocrinology. Experience in Clinical and Laboratory Diagnosis. Dr. Taymor.

513M. Endocrinology with Special Reference to the Ovary. Drs. Ulfelder, G. S. Richardson, McArthur, and Scully. (*Same course as Surgery 507M.*)

514M. Gynecologic Oncology. Dr. T. Griffiths.

515M. Trophoblastic Disease. Dr. D. P. Goldstein.

516M. Gynecologic Tumors. Dr. Ulfelder and Associates.

Department of Ophthalmology

Henry F. Allen, M.D., Clinical Professor of Ophthalmology, and Head of the Department.

David G. Cogan, M.D., Henry Willard Williams Professor of Ophthalmology, and Director of the Howe Laboratory of Ophthalmology.

W. Morton Grant, M.D., Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

David D. Donaldson, M.D., Associate Clinical Professor of Ophthalmology.

Carl C. Johnson, M.D., Associate Clinical Professor of Ophthalmology.

Jin H. Kinoshita, Ph.D., S.D. (hon.), Associate Professor of Biochemical Ophthalmology.

Toichiro Kuwabara, M.D., A.M. (hon.), Associate Professor of Pathology in the Department of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

Charles L. Schepens, M.D., Associate Clinical Professor of Ophthalmology.

Claes H. Dohlman, M.D., Ph.D., Assistant Clinical Professor of Ophthalmology.

Robert D. Reinecke, M.D., Assistant Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

Alfred W. Scott, M.D., Assistant Clinical Professor of Ophthalmology.

Albert E. Sloane, M.D., Assistant Clinical Professor of Ophthalmology.

Taylor R. Smith, M.D., Assistant Clinical Professor of Ophthalmology.

S. Arthur Boruchoff, M.D., Clinical Associate in Ophthalmology.

Robert J. Brockhurst, M.D., Clinical Associate in Ophthalmology.

Bernard T. Hutchinson, M.D., Clinical Associate in Ophthalmology.

Sumner D. Liebman, M.D., Clinical Associate in Ophthalmology.
Charles D. J. Regan, M.D., Clinical Associate in Ophthalmology.
Garrett L. Sullivan, M.D., Clinical Associate in Ophthalmology.
Endre A. Balazs, M.D., Lecturer on Ophthalmology.
Abraham Pollen, M.D., Lecturer on Ophthalmology.
Eliot L. Berson, M.D., Instructor in Ophthalmology (from August 1, 1968).
Harry E. Braconier, M.D., Instructor in Ophthalmology.
John M. Carroll, M.D., Instructor in Ophthalmology.
Stephen J. Fricker, M.D., Instructor in Ophthalmology.
John M. Hill, M.D., Instructor in Ophthalmology.
Byron S. Lingeman, M.D., Instructor in Opthalmology.
Henry A. Mosher, M.D., Instructor in Ophthalmology.
Liane Reif-Lehrer, Ph.D., Instructor in Ophthalmic Research.
Karl Riemer, M.D., Instructor in Ophthalmology.
Richard M. Robb, M.D., Instructor in Ophthalmology.
Baruch J. Sachs, M.D., Instructor in Ophthalmology.
David H. Scott, M.D., Instructor in Ophthalmology.
Earl S. Seale, M.D., Instructor in Ophthalmology.
Richard J. Simmons, M.D., Instructor in Ophthalmology.
Francis J. West, M.D., Instructor in Ophthalmology.
Jeremy B. Whitney, M.D., Instructor in Ophthalmology.
Ernst G. G. Wolf, Ph.D., Instructor in Ophthalmology.
Lloyd M. Aiello, M.D., Assistant in Ophthalmology.
D. Robert Alpert, M.D., Assistant in Ophthalmology.
Richard B. Chapman, M.D., Assistant in Ophthalmology.
Eugene C. Ciccarelli, M.D., Assistant in Ophthalmology.
Thomas P. Cronin, M.D., Assistant in Ophthalmology.
Hal M. Freeman, M.D., Assistant in Ophthalmology.
Carl G. Freese, M.D., Assistant in Ophthalmology.
George E. Garcia, M.D., Assistant in Ophthalmology.
John R. Gehring, M.D., Assistant in Ophthalmology.
Ralph H. Hinckley, M.D., Assistant in Ophthalmology.
Judith A. Jedziniak, Ph.D., Assistant in Ophthalmic Research.

Robert C. Lawlor, M.D., Assistant in Ophthalmology.
John W. McMeel, M.D., Assistant in Ophthalmology.
David Miller, M.D., Assistant in Ophthalmology.
George M. Olive, Jr., M.D., Assistant in Ophthalmology.
Perry Rosenthal, M.D., Assistant in Ophthalmology.
David S. Walton, M.D., Assistant in Ophthalmology.
Donald R. Weis, M.D., Assistant in Ophthalmology.
Michael Wiedman, M.D., Assistant in Ophthalmology.
David M. Worthen, M.D., Assistant in Ophthalmic Research.
Douglas R. Anderson, M.D., Research Fellow in Ophthalmology.
Mario V. Aquino, M.D., Research Fellow in Ophthalmology (through July 31, 1968).
Leo T. Chylack, Jr., M.D., Research Fellow in Opthalmology.
Bernard J. Hodgkinson, M.B., B.S., Research Fellow in Ophthalmology.
Kurt A. Simons, Ed.M., Research Fellow in Ophthalmology.
Thomas A. Weidman, M.S., Research Fellow in Ophthalmology (through July 31, 1968).
Isla M. Williams, M.B., B.S., Research Fellow in Ophthalmology (from December 1, 1968).
Shirley H. Wray, M.B., Ch.B., Ph.D., Research Fellow in Ophthalmology.
Jerry B. Wurster, M.D., Research Fellow in Ophthalmology.
David N. Cohen, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).
William J. Collis, M.D., Teaching Fellow in Ophthalmology (through November 30, 1968).
Andrew A. Dahl, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).
Bruce A. Ellingsen, M.D., Teaching Fellow in Ophthalmology.
Thomas A. Farrell, M.D., C.M., Teaching Fellow in Ophthalmology (from January 1, 1969).
Alfred R. Gaudio, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).
David P. Honey, M.B., B.S., Teaching Fellow in Ophthalmology (from January 1, 1969).

Mohandas M. Kini, Ph.D., Teaching Fellow in Ophthalmology (from January 1, 1969).

Brent W. Lambert, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).

Deborah R. P. Langston, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).

G. William Lazenby, M.D., Teaching Fellow in Ophthalmology (through May 31, 1969).

Joseph Michon, Jr., M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).

Don H. Nicholson, M.D., Teaching Fellow in Ophthalmology (from January 1, 1969).

Robert E. O'Connor, M.D., Teaching Fellow in Ophthalmology (through February 28, 1969).

John W. Reed, M.D., Teaching Fellow in Ophthalmology (through May 31, 1969).

Thomas B. Souders, M.D., Teaching Fellow in Ophthalmology.

Karl F. Stephens, M.D., Teaching Fellow in Ophthalmology (through November 30, 1968).

Nicholas C. Trotta, M.D., Teaching Fellow in Ophthalmology (through February 28, 1969).

Required Courses

Ophthalmology. *Introduction to the Clinic.* — Lectures and laboratory sessions.

Ophthalmology. *Principal Clinical Year.* — Clinical Ophthalmology.

INTRODUCTION TO THE CLINIC	HOURS
Lectures and laboratory sessions	9
PRINCIPAL CLINICAL YEAR	
Clinical Ophthalmology	40

Fourth Year Elective Courses *

BLOCK COURSE

501M. Ophthalmology. Dr. A. W. Scott and Associates.

502M. Ophthalmology. Dr. A. W. Scott and Associates.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

HARVARD MEDICAL SCHOOL

Howe Laboratory of Ophthalmology

David G. Cogan, M.D., Henry Willard Williams Professor of Ophthalmology, and Director of the Howe Laboratory of Ophthalmology.

W. Morton Grant, M.D., Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

David D. Donaldson, M.D., Associate Clinical Professor of Ophthalmology.

Jin H. Kinoshita, Ph.D., S.D. (hon.), Associate Professor of Biochemical Ophthalmology.

Toichiro Kuwabara, M.D., A.M. (hon.), Associate Professor of Pathology in the Department of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

Robert D. Reinecke, M.D., Assistant Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary.

Stephen J. Fricker, M.D., Instructor in Ophthalmology.

Liane Reif-Lehrer, Ph.D., Instructor in Ophthalmic Research.

Judith A. Jedziniak, Ph.D., Assistant in Ophthalmic Research.

David M. Worthen, M.D., Assistant in Ophthalmic Research.

Leo T. Chylack, Jr., M.D., Research Fellow in Ophthalmology.

Thomas A. Weidman, M.S., Research Fellow in Ophthalmology (through July 31, 1968).

Shirley H. Wray, M.B., Ch.B., Ph.D., Research Fellow in Ophthalmology.

Jerry B. Wurster, M.D., Research Fellow in Ophthalmology.

The Howe Laboratory of Ophthalmology was founded in 1927 by the late Dr. Lucien Howe. A sum of money equal to that initially given by Dr. Howe was donated by the Rockefeller Foundation. Laboratory space was provided by the Massachusetts Eye and Ear Infirmary.

The purpose of the Laboratory is to advance ophthalmology; its researches are not restricted to any particular phase of this science. Advantage is taken of the rich clinical material of the Infirmary. While the Laboratory is purely an institution for research, the services of the various members of the staff are available for teaching in the Harvard Medical School and for assistance in the clinical work of the Infirmary.

Department of Orthopedic Surgery

Melvin J. Glimcher, M.D., Edith M. Ashley Professor of Orthopedic Surgery, and Chairman of the Department.

Thornton Brown, M.D., Associate Clinical Professor of Orthopedic Surgery.

Otto E. Aufranc, M.D., Assistant Clinical Professor of Orthopedic Surgery.

Henry H. Banks, M.D., Assistant Clinical Professor of Orthopedic Surgery.

Jonathan Cohen, M.D., Assistant Clinical Professor of Orthopedic Surgery.

William H. Harris, M.D., Assistant Clinical Professor of Orthopedic Surgery.

Paul W. Hugenberger, M.D., Lecturer on Orthopedic Surgery.

Thomas L. DeLorme, M.D., Clinical Associate in Orthopedic Surgery.

Paul P. Griffin, M.D., Clinical Associate in Orthopedic Surgery (resigned March 31, 1969).

Arthur M. Pappas, M.D., Clinical Associate in Orthopedic Surgery.

Donald S. Pierce, M.D., Clinical Associate in Orthopedic Surgery.

Clement B. Sledge, M.D., Associate in Orthopedic Surgery at the Massachusetts General Hospital.

Dorothy F. Travis, Ph.D., Associate in Biology in the Department of Orthopedic Surgery at the Massachusetts General Hospital (resigned February 28, 1969).

Arthur W. Trott, M.D., Clinical Associate in Orthopedic Surgery.

Theodore A. Potter, M.D., Lecturer on Orthopedic Surgery.

Margaret Anderson, M.S., Research Associate in Orthopedic Surgery.

Anthony L. Andrikides, Ph.D., Research Associate in Biological Chemistry in the Department of Orthopedic Surgery (died February 18, 1969).

Elton P. Katz, Ph.D., Research Associate in Biological Chemistry in the Department of Orthopedic Surgery (on leave July 1, 1968 through June 30, 1969).

Gerald L. Mechanic, Ph.D., Research Associate in Biological Chemistry in the Department of Orthopedic Surgery (resigned January 31, 1969).

Jerome M. Seyer, Ph.D., Research Associate in Biochemistry in the Department of Orthopedic Surgery.

Joseph S. Barr, Jr., M.D., Instructor in Orthopedic Surgery.

Frank D. Bates, M.D., Instructor in Orthopedic Surgery.

Benjamin E. Bierbaum, M.D., Instructor in Orthopedic Surgery.

Robert J. Boyd, M.D., Instructor in Orthopedic Surgery.

Robert B. Brendze, M.D., Instructor in Orthopedic Surgery.

Hugh P. Chandler, M.D., Instructor in Orthopedic Surgery.

William N. Jones, M.D., Instructor in Orthopedic Surgery.

William L. Kermond, M.B., B.S., Instructor in Orthopedic Surgery.

J. Drennan Lowell, M.D., Instructor in Orthopedic Surgery.

William R. MacAusland, Jr., M.D., Instructor in Orthopedic Surgery.

James G. Manson, M.B., Ch.B., Instructor in Orthopedic Surgery.

John B. McGinty, M.D., Instructor in Orthopedic Surgery.

Edward A. Nalebuff, M.D., Instructor in Orthopedic Surgery.

Paul I. O'Brien, M.D., Instructor in Orthopedic Surgery.

Panos Panagakos, M.D., Instructor in Orthopedic Surgery.

Eric L. Radin, M.D., Instructor in Orthopedic Surgery.

Eugene E. Record, M.D., Instructor in Orthopedic Surgery.

John A. Reidy, M.D., Instructor in Orthopedic Surgery.

Edward J. Riseborough, M.B., Ch.B., Instructor in Orthopedic Surgery.

Carter R. Rowe, M.D., Instructor in Orthopedic Surgery.

Morten Smith-Petersen, M.D., Instructor in Orthopedic Surgery.

Roderick H. Turner, M.D., Instructor in Orthopedic Surgery.

Robert Ulin, M.D., Instructor in Orthopedic Surgery.

Edwin T. Wyman, Jr., M.D., Instructor in Orthopedic Surgery.

Seymour Zimbler, M.D., Instructor in Orthopedic Surgery, and Tutor in Medical Sciences.

Willard E. Dotter, M.D., Assistant in Orthopedic Surgery.

Robert E. Leach, M.D., Assistant in Orthopedic Surgery

Philip I. Salib, M.B., Ch.B., Assistant in Orthopedic Surgery.

William H. Thomas, M.D., Assistant in Orthopedic Surgery.

Sandra J. Thompson, M.D., Assistant in Orthopedic Surgery (from October 1, 1968).

William R. Torgerson, M.D., Assistant in Orthopedic Surgery.

Marvin S. Weinfeld, M.D., Assistant in Orthopedic Surgery.

John R. Auty, Ph.D., Research Fellow in Orthopedic Surgery.

Ronald E. Barber, B.D.S., Research Fellow in Orthopedic Surgery (resigned December 31, 1968).

Laurence C. Bonar, A.B., Research Fellow in Orthopedic Surgery (from January 1, 1969).

Hamish G. Gillies, M.B., Ch.B., Research Fellow in Orthopedic Surgery (from September 1, 1968).

Hyman Glick, M.D., Research Fellow in Orthopedic Surgery.

James Graham, M.B., Ch.B., Research Fellow in Orthopedic Surgery (from August 1, 1968).

William C. Head, M.D., Research Fellow in Orthopedic Surgery.

Fumio Kato, M.D., Research Fellow in Orthopedic Surgery.

John E. Kenzora, M.D., Research Fellow in Orthopedic Surgery (through August 31, 1968).

Stanley Liebowitz, M.D., Research Fellow in Orthopedic Surgery.

Martin Lowy, M.B., B.S., Research Fellow in Orthopedic Surgery (from October 15, 1968).

Paddy D. McConaghey, Ph.D., Research Fellow in Orthopedic Surgery.

Eduardo Rodriguez, M.D., Research Fellow in Orthopedic Surgery (through December 31, 1968).

Nils W. Rydell, M.D., Research Fellow in Orthopedic Surgery (through March 31, 1969).

Charles A. Shuttleworth, Ph.D., Research Fellow in Orthopedic Surgery (through September 30, 1968).

Zvi H. Yosipovitch, M.D., Research Fellow in Orthopedic Surgery (resigned January 31, 1969).

Arthur L. Boland, M.D., Teaching Fellow in Orthopedic Surgery (from October 1, 1968 through March 31, 1969).

Robert B. Keller, M.D., Teaching Fellow in Orthopedic Surgery (through March 31, 1969).

Allen S. Lewis, M.D., Teaching Fellow in Orthopedic Surgery (through September 30, 1968).

Francis D. O'Connell, M.D., Teaching Fellow in Orthopedic Surgery (from October 1, 1968).

Won H. Oh, M.D., Teaching Fellow in Orthopedic Surgery (through September 30, 1968).

Edwin T. Preston, M.D., Teaching Fellow in Orthopedic Surgery (through December 31, 1968).

Lawrence T. Shields, M.D., Teaching Fellow in Orthopedic Surgery (from January 1, 1969).

William H. Simon, M.D., Teaching Fellow in Orthopedic Surgery (through December 31, 1968).

Hugh G. Watts, M.D., Teaching Fellow in Orthopedic Surgery (from April 1, 1969).

Harris S. Yett, M.D., Teaching Fellow in Orthopedic Surgery (from January 1, 1969).

Required Courses

Orthopedic Surgery. *Second Year.* — The department participates in the instruction during the musculoskeletal section of Pathophysiology and in the Examination of the Patient.

Orthopedic Surgery. *Introduction to the Clinic* and *Principal Clinical Year.* — Instruction is given in orthopedic surgery during the Introduction to the Clinic by sectional assignments and by combined sessions at the individual hospitals to which the students are assigned, and during the Principal Clinical Year by clerkships of three weeks duration.

SECOND YEAR — HOURS

Participation in pathophysiology musculoskeletal section. 42†
Participation in Examination of the Patient course. 9

† This figure represents total number of hours scheduled for musculoskeletal section.

INTRODUCTION TO THE CLINIC

Clinical exercises. Drs. Glimcher, Brown, Banks, Pappas, Trott, O'Brien, Zimbler, and Associates. C.H.M.C., M.G.H., P.B.B.H., B.I.H., and B.C.H. In sections throughout the period. Number of hours varies.

PRINCIPAL CLINICAL YEAR

HOURS

Ward clerkships. Drs. Glimcher, Brown, Banks, Pappas, Trott, and Associates. C.H.M.C., M.G.H., P.B.B.H. The three week clerkship is spent either at the Massachusetts General Hospital or at The Children's Hospital Medical Center and Peter Bent Brigham Hospital, with combined exercises for both groups on schedule at The Children's Hospital Medical Center and the Massachusetts General Hospital. 120

Fourth Year Elective Courses *

BLOCK COURSES

501M. Children's Orthopedics. Drs. W. T. Green, Trott, and Associates.
502M. Adult Orthopedics. Dr. Banks and Associates.
503M. Children and Adults. Drs. W. T. Green, Banks, P. P. Griffin, and Associates.
504M. Functional Anatomy, Biomechanics, and Reconstructive Surgery. Drs. Kermond and D. S. Pierce. (*Same course as Medicine 541M.*)
505M. Clinical Orthopedic Surgery, Fractures, and Trauma. Drs. T. Brown, Aufranc, and Associates.
506M. Skiing Injuries. Drs. A. E. Ellison and Wolf.
507M. Orthopedic Aspects of Rehabilitation. Drs. R. H. Turner, Nalebuff, and Chandler.

LONGITUDINAL COURSES

702. Fractures and Related Trauma. Drs. W. T. Green, Banks, Trott, Quigley, and Associates.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Otology and Laryngology

Harold F. Schuknecht, M.D., A.M. (hon.), Walter Augustus Lecompte Professor of Otology, Professor of Laryngology, and Head of the Department.

William W. Montgomery, M.D., Associate Clinical Professor of Otolaryngology.

Allan C. Goodman, Ph.D., Assistant Professor of Audiology in the Department of Otolaryngology at The Children's Hospital.

Richard R. Gacek, M.D., Associate in Otolaryngology at the Massachusetts Eye and Ear Infirmary.

Daniel Miller, M.D., Clinical Associate in Otolaryngology.

Sydney Shore, M.D., Clinical Associate in Otolaryngology.

Werner D. Chasin, M.D., Lecturer on Otolaryngology.

John W. Irwin, M.D., Research Associate in Otolaryngology.

Nelson Y. Kiang, Ph.D., Research Associate in Otolaryngology.

Robert S. Kimura, A.B., Research Associate in Otolaryngology.

Walter A. Rosenblith, Ing.Rad., Research Associate in Otology.

Hugo D. Angelini, M.D., Instructor in Otolaryngology.

J. Charles Drooker, M.D., Instructor in Otolaryngology.

Charles F. Ferguson, M.D., Instructor in Otolaryngology.

Carlyle G. Flake, M.D., Instructor in Otolaryngology.

William L. Hayden, M.D., Instructor in Otolaryngology.

Leo T. Kelly, M.D., Instructor in Anaesthesia in the Department of Otolaryngology.

Robert E. Klotz, M.D., Instructor in Otolaryngology.

Donald K. Lewis, M.D., Instructor in Otolaryngology.

Robert H. Lofgren, M.D., Instructor in Otolaryngology.

John E. McKeigue, M.D., Instructor in Otolaryngology.

Aram Roopenian, M.D., Instructor in Otolaryngology.

John C. Snow, M.D., Instructor in Anaesthesia in the Department of Otolaryngology.

Alfred D. Weiss, M.D., Instructor in Otolaryngology.

Bernard Zonderman, M.D., Instructor in Otolaryngology.
Yale J. Berry, M.D., Assistant in Otolaryngology.
Robert W. Clubb, D.M.D., M.D., Assistant in Otolaryngology.
Eugene H. Courtiss, M.D., Assistant in Otolaryngology.
Charles W. Cummings, M.D., Assistant in Otolaryngology.
Allan G. Edwards, Jr., M.D., Assistant in Otolaryngology.
C. Edward Jackson, M.D., Assistant in Otolaryngology.
Roy A. Johnson, M.D., Assistant in Otolaryngology.
Donald G. Keamy, M.D., Assistant in Otolaryngology.
John M. Kurkjian, M.D., Assistant in Otolaryngology.
Herbert Silverstein, M.D., Assistant in Otolaryngology.
John J. Stavros, M.D., Assistant in Otolaryngology.
Sidney R. Wilker, M.D., Assistant in Otolaryngology.
Anthony Zovickian, M.D., Assistant in Otolaryngology.
Fumihisa Hiraide, M.D., Research Fellow in Otolaryngology.
Pierre Montandon, M.D., Research Fellow in Otolaryngology.
Haruo Saito, M.D., Research Fellow in Otolaryngology.
Tadahiko Takahashi, M.D., Research Fellow in Otolaryngology.
Edward L. Applebaum, M.D., Teaching Fellow in Otolaryngology.
John P. Lynch, M.D., Teaching Fellow in Otolaryngology.
David M. Metzner, M.D., Teaching Fellow in Otolaryngology.
Earl F. Singleton, M.D., Teaching Fellow in Otolaryngology.
Gershon J. Spector, M.D., Teaching Fellow in Otolaryngology.
William R. Wilson, M.D., Teaching Fellow in Otolaryngology.

Required Course

Otology and Laryngology. *Introduction to the Clinic* and *Principal Clinical Year.* — Lectures and clinical instruction at the School and the hospitals.

INTRODUCTION TO THE CLINIC	HOURS
Lectures and Clinical Instruction. Dr. Schuknecht and Associates.	9

PRINCIPAL CLINICAL YEAR	HOURS
Clinical Instruction (groups of four or five), Seminars (groups of	

nine) given at the M.E.E.I. Seminars: Monday, Tuesday, and Wednesday 8:00–9:00 a.m. Clinical Exercises: 9:00 a.m.–12:30 p.m. alternate mornings and one afternoon 1:00–3:00 p.m. Each student has ten sessions of clinical instruction. Dr. SCHUKNECHT and ASSOCIATES. 36

*Fourth Year Elective Courses**

BLOCK COURSES

501M. Clinical Otolaryngology. Dr. SCHUKNECHT and ASSOCIATES.
502M. Advanced Clinical Laryngology. Dr. MONTGOMERY and ASSOCIATES.
503M. Advanced Clinical Otology. Dr. SCHUKNECHT and ASSOCIATES.

LONGITUDINAL COURSE

701. Basic Sciences in Otolaryngology. Dr. SCHUKNECHT and STAFF.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Pathology

Morris J. Karnovsky, M.B., Ch.B., A.M. (hon.), Professor of Pathology, Head of the Department, and Tutor in Pathology.

Benjamin Castleman, M.D., Professor of Pathology at the Massachusetts General Hospital.

John M. Craig, M.D., Clinical Professor of Pathology.

Gustave J. Dammin, M.D., A.M. (hon.), Elsie T. Friedman Professor of Pathology.

Sidney Farber, M.D., D.Sc. (hon.), M.D. (hon.), S. Burt Wolbach Professor of Pathology.

David G. Freiman, M.D., A.M. (hon.), Professor of Pathology at the Beth Israel Hospital.

Arthur T. Hertig, M.D., Shattuck Professor of Pathological Anatomy.

William A. Meissner, M.D., Clinical Professor of Pathology.

Robert H. Heptinstall, M.B., B.S., M.D., Visiting Professor of Pathology (from October 1, 1968 through October 15, 1968).

Wallace H. Clark, Jr., M.D., Associate Clinical Professor of Pathology.

Richard B. Cohen, M.D., Associate Clinical Professor of Pathology.

Thomas C. Jones, D.V.M., Associate Clinical Professor of Pathology.

Johannes P. Kulka, M.D., Associate Clinical Professor of Pathology.

Philip M. LeCompte, M.D., Associate Clinical Professor of Pathology.

Franz Von Lichtenberg, M.D., A.M. (hon.), Associate Professor of Pathology at the Peter Bent Brigham Hospital.

Guido Majno, M.D., A.M. (hon.), Associate Professor of Pathology (resigned August 31, 1968).

Robert E. Scully, M.D., Associate Clinical Professor of Pathology.

Edgar B. Taft, M.D., Associate Clinical Professor of Pathology.

Betty G. Uzman, M.D., Associate Professor of Pathology at the Children's Cancer Research Foundation.

Gordon F. Vawter, M.D., Associate Clinical Professor of Pathology.

Austin L. Vickery, Jr., M.D., Associate Clinical Professor of Pathology.

Leonard Atkins, M.D., Assistant Professor of Pathology at the Massachusetts General Hospital.

Karoly Balogh, M.D., Assistant Professor of Pathology at the Massachusetts General Hospital (resigned September 30, 1968).

Leonard D. Berman, M.D., Assistant Professor of Pathology (from October 1, 1968).

James B. Caulfield, M.D., Assistant Professor of Pathology at the Massachusetts General Hospital.

Bradley E. Copeland, M.D., Assistant Clinical Professor of Pathology.

Joseph M. Corson, M.D., Assistant Professor of Pathology at the Peter Bent Brigham Hospital.

Ramzi S. Cotran, M.D., Assistant Professor of Pathology.

John E. Craighead, M.D., Assistant Professor of Pathology (resigned July 31, 1968).

Diane W. Crocker, M.D., Assistant Clinical Professor of Pathology.

Alastair W. Cunningham, M.B., Ch.B., Assistant Professor of Pathology at the Peter Bent Brigham Hospital.

George W. Curtis, M.D., Assistant Clinical Professor of Pathology.

Shirley G. Driscoll, M.D., Assistant Clinical Professor of Pathology.

Martin H. Flax, Ph.D., M.D., Assistant Professor of Pathology at the Massachusetts General Hospital (on leave September 1, 1968 through June 30, 1969).

Thomas J. Gill, III, M.D., Assistant Professor of Pathology.

Hazel Gore, M.B., Ch.B., Assistant Professor of Pathology.

Earl "E" Hellerstein, M.D., Assistant Professor of Pathology.

Edward S. Reynolds, M.D., Assistant Professor of Pathology at the Peter Bent Brigham Hospital.

Sanford I. Roth, M.D., Assistant Professor of Pathology at the Massachusetts General Hospital.

Stephen M. Shea, M.B., Ch.B., M.D., Assistant Professor of Pathology.

Richard Van Praagh, M.D., Assistant Clinical Professor of Pathology.

Robert Fienberg, M.D., Lecturer on Pathology.

George E. Foley, D.Sc., Lecturer on Pathology.

Hermann Lisco, M.D., Lecturer on Pathology, and Assistant Dean of the Faculty of Medicine for Student Affairs.

Bernard F. Trum, D.V.M., Lecturer on Veterinary Medicine in the Department of Pathology, Director of the Animal Research Center and Director of the New England Regional Primate Research Center.

Andrew S. Abraham, M.D., Associate in Pathology at the Peter Bent Brigham Hospital.

George T. Diamandopoulos, M.D., Associate in Pathology and Tutor in Pathology.

Robert L. Ehrmann, M.D., Clinical Associate in Pathology.

Hossein D. Fahimi, M.D., Associate in Pathology.

Harvey Goldman, M.D., Associate in Pathology at the Beth Israel Hospital.

Hubert Jockin, M.D., Clinical Associate in Pathology.

Irwin K. Kline, M.D., Clinical Associate in Pathology.

Merle A. Legg, M.D., C.M., Clinical Associate in Pathology.

Arthur A. Like, M.D., Associate in Pathology.

Seymour Rosen, M.D., Associate in Pathology at the Beth Israel Hospital.

Eveline E. Schneeberger-Keeley, M.D., Associate in Pathology.

Priscilla D. Taft, M.D., Clinical Associate in Pathology.

Ira Gore, M.D., Lecturer on Pathology (resigned October 31, 1968).

Leonard S. Gottlieb, M.D., Lecturer on Pathology.

James H. Graham, M.D., Lecturer on Pathology.

Constantine J. Maletskos, Ph.D., Lecturer on Pathology.
Walter G. Putschar, M.D., Lecturer on Pathology.
Stanley L. Robbins, M.D., Lecturer on Pathology.
Agnes B. Russfield, M.D., Ph.D., Lecturer on Pathology.
Richard A. Adams, Ph.D., Research Associate in Pathology.
Rogelio A. Alarcon, M.D., Research Associate in Pathology.
Eleanor A. Bacon, A.B., Research Associate in Pathology.
Nestor Bohonos, Ph.D., Research Associate in Pathology.
Mayo E. Brown, Ph.D., Research Associate in Pathology.
John A. Cavins, M.D., Research Associate in Pathology.
Samuel S. Epstein, M.D., Research Associate in Pathology.
Awtar K. Ganju, Ph.D., Research Associate in Pathology.
Lippman H. Geronimus, Ph.D., Research Associate in Pathology.
Charley E. Gilmore, D.V.M., Research Associate in Pathology.
Masando Hayashi, M.D., Ph.D., Research Associate in Pathology.
Ronald D. Hunt, D.V.M., Research Associate in Pathology.
Lorna D. Johnson, M.D., Research Associate in Pathology.
Norval W. King, Jr., D.V.M., Research Associate in Pathology.
Saul Malkiel, Ph.D., M.D., Research Associate in Pathology.
Robert E. McCarthy, Ph.D., Research Associate in Pathology.
Edward J. Modest, Ph.D., Research Associate in Pathology.
Philip Reyes, Ph.D., Research Associate in Pathology.
DeWayne Roberts, Ph.D., Research Associate in Pathology.
Barbara H. Sanford, Ph.D., Research Associate in Pathology.
Sisir K. Sengupta, Ph.D., Research Associate in Pathology.
Henry S. Slayter, Ph.D., Research Associate in Pathology.
Tien-Wen Tao Wiedmann, Ph.D., Research Associate in Pathology.
George Yerganian, Ph.D., Research Associate in Pathology.
James S. Abercrombie, Jr., M.D., Instructor in Pathology (from September 1, 1968).
Albert E. Anderson, M.D., Instructor in Pathology.
Nolton H. Bigelow, M.D., Instructor in Pathology.
Roger A. Cote, M.D., Instructor in Pathology.
Charles J. De Wan, M.D., Instructor in Pathology.
Harold F. Dvorak, M.D., Instructor in Pathology.

Donald Feldman, M.D., Instructor in Pathology.
Edward O. Fox, M.D., Instructor in Pathology.
James M. Gibson, M.D., Instructor in Pathology.
Max L. Goodman, M.D., Instructor in Pathology (from November 1, 1968).
Joseph S. Incze, M.D., Instructor in Pathology.
Peter G. Isaacson, M.B., Ch.B., Instructor in Pathology.
Earl J. Kasdon, M.D., Instructor in Pathology.
Tilde S. Kline, M.D., Instructor in Pathology.
George Kury, M.D., Instructor in Pathology (resigned October 31, 1968).
Emil M. Laga, M.D., Instructor in Pathology (from December 1, 1968).
Avis J. Lingeman, M.D., Instructor in Pathology (through August 31, 1968).
Kilmer S. McCully, M.D., Instructor in Pathology, and Tutor in Pathology.
Joseph C. Merriam, Jr., M.D., Instructor in Pathology.
Miriam Moldveen-Geronimus, M.D., Instructor in Pathology.
Arthur E. O'Dea, M.D., Instructor in Pathology.
William F. O'Toole, M.D., Instructor in Pathology.
Pier F. Paci, M.D., Instructor in Pathology (from October 1, 1968).
John A. Peters, M.D., Instructor in Pathology.
Charles R. Robinson, M.B., Ch.B., Instructor in Pathology.
Richard Siegler, M.D., Instructor in Pathology (from September 1, 1968).
Russell B. Street, Jr., M.D., Instructor in Pathology.
Joe Suyemoto, M.D., Instructor in Pathology.
Carol J. Amick, M.D., Assistant in Pathology.
George K. Baer, M.D., Assistant in Pathology.
George J. Busch, M.D., Assistant in Pathology.
George R. Dickersin, M.D., Assistant in Pathology.
Arthur W. Duff, M.D., Assistant in Pathology (resigned September 13, 1968).
George W. Evans, M.D., Assistant in Pathology.

Eleonora G. Galvanek, M.D., Assistant in Pathology.
Robert S. Harper, M.D., Assistant in Pathology.
Carl A. Harris, Ph.D., M.D., Assistant in Pathology.
Lewis P. James, Jr., M.D., Assistant in Pathology.
Ambrose F. Keeley, M.D., Assistant in Pathology.
David H. Kessel, Ph.D., Assistant in Pathology.
Irwin Leav, D.V.M., Assistant in Pathology.
Robert M. Lewis, D.V.M., Assistant in Pathology.
David S. Papermaster, M.D., Assistant in Pathology.
L. Hedda Rev-Kury, M.D., Assistant in Pathology.
Jerome H. Smith, M.D., Assistant in Pathology.
Chung-Wai Tang, Ph.D., Assistant in Pathology.
Manjeri A. Venkatachalam, M.B., B.S., Assistant in Pathology.
Bernard C. Zook, D.V.M., Assistant in Pathology.
Solon R. Cole, M.D., Research Fellow in Pathology.
Donald V. Cramer, D.V.M., Research Fellow in Pathology.
Frederick R. Davey, M.D., Research Fellow in Pathology.
Ann M. Dvorak, M.D., Research Fellow in Pathology.
Martin L. Falxa, Ph.D., Research Fellow in Pathology.
Alfredo Feria-Velasco, M.D., Research Fellow in Pathology (from September 1, 1968).
Donald H. Kelley, M.D., Research Fellow in Pathology.
Martin F. King, M.D., Research Fellow in Pathology.
Mogens Knoth, M.D., Research Fellow in Pathology (resigned October 31, 1968).
Charles T. Ladoulis, M.D., Research Fellow in Pathology.
Alex Matter, M.D., Research Fellow in Pathology (from October 1, 1968 through March 31, 1969).
Yumiko Ohta, Ph.D., Research Fellow in Pathology (resigned September 18, 1968).
Catherine A. Reznikoff, Ph.D., Research Fellow in Pathology.
Rodney L. Robison, D.V.M., Research Fellow in Pathology.
Alan L. Schiller, M.D., Research Fellow in Pathology.
Judy M. Strum, Ph.D., Research Fellow in Pathology (from September 1, 1968).

Max N. I. Walters, M.B., B.S., M.D., Research Fellow in Pathology (from August 1, 1968 through February 28, 1969).
Donald A. Antonioli, M.D., Teaching Fellow in Pathology.
Robert W. Bain, M.D., Teaching Fellow in Pathology (through November 30, 1968).
James T. Bolan, M.D., Teaching Fellow in Pathology.
Gregory A. Brondos, M.D., Teaching Fellow in Pathology.
James R. Brown, M.D., Teaching Fellow in Pathology.
Nelson A. Burstein, M.D., Teaching Fellow in Pathology.
James J. Daly, M.B., Ch.B., Teaching Fellow in Pathology.
Christopher H. Fung, M.D., Teaching Fellow in Pathology
James J. Galdabini, M.D., Teaching Fellow in Pathology.
Ann E. Hamilton, M.D., Teaching Fellow in Pathology.
Jerry L. Harris, M.D., Teaching Fellow in Pathology.
Robert A. Hershberg, M.D., Teaching Fellow in Pathology.
John B. Hobbs, M.B., B.S., Teaching Fellow in Pathology.
Walter I. Hofman, M.D., Teaching Fellow in Pathology (resigned December 31, 1968).
Chikao G. Hori, M.D., Teaching Fellow in Pathology (through December 31, 1968).
Charles G. Huizenga, M.D., Teaching Fellow in Pathology.
Leslie S. Kish, M.D., Teaching Fellow in Pathology.
John W. Mason, M.D., Teaching Fellow in Pathology.
Scott McNutt, M.D., Teaching Fellow in Pathology.
Richard S. Neiman, M.D., Teaching Fellow in Pathology.
Geraldine S. Pinkus, M.D., Teaching Fellow in Pathology.
Vivian W. Pinn, M.D., Teaching Fellow in Pathology.
David T. Purtilo, M.D., Teaching Fellow in Pathology (from September 15, 1968).
Stanley J. Robboy, M.D., Teaching Fellow in Pathology.
Enrique A. Soto, M.D., Teaching Fellow in Pathology.
Ronald S. Weinstein, M.D., Teaching Fellow in Pathology.
Gary M. Williams, M.D., Teaching Fellow in Pathology.
Roger A. Williams, M.D., Teaching Fellow in Pathology.
Moo N. Yum, M.D., Teaching Fellow in Pathology.

Required Courses

During the academic year 1968–69, two programs of instruction are in effect. The first year class is participating in a new curriculum, while the second year class is completing the "old" program. In subsequent years the first year course only will be offered.

PATHOLOGY. *First Year* (*new program*). — General pathology is taught during the first semester as part of the course in Cell Biology. Lectures are given by members of the staff on disease at the cell level, inflammation, circulatory disturbances, and immunologic injury. It also includes laboratory study of pathologic histology and demonstrations of gross pathologic material, partly as fixed specimens, but more extensively as demonstrations of fresh autopsy and surgical material brought from laboratories of the affiliated hospitals. The material in this course is coordinated with what is being taught concurrently in Histology and Immunology.

In the second semester the pathology of tumors together with many aspects of special pathology involving the circulatory, respiratory, renal, epidermal and skeletal systems are taught in conjunction with the other first year courses and designated as Human Biology I. The initial section on Growth (3 weeks) comprises an introduction to embryology and human genetics as well as an overview of neoplasia (etiology, epidemiology and pathogenesis of tumors), and the main features of cellular radiation biology. This is followed by a section on the Circulation (5 weeks) concerned with the normal and pathologic anatomy and physiology of the heart and blood vessels, a section on Respiration (2½ weeks) concerned with normal and abnormal pulmonary function and gas exchange, one on Kidney (2½ weeks) concerned with normal and abnormal renal function and the problems of acid-base balance, and a final section on Epidermal and Supporting Tissues (3 weeks) concerned with skin, bone and the connective tissues. Pathology teaching in all these sections includes laboratory exercises, frequent demonstrations of gross and microscopic pathologic material and lectures by various staff members, often in conjunction with physiologists, pharmacologists, clinicians and radiologists. In addition, numerous conferences and clinics are designed to help the student understand the relation between structure and function, the pathological background of various diseases states and the fundamentals of clinico-pathological correlation.

PATHOLOGY. *Second Year.* — The second year course in pathology is planned as a systematic survey of pathology. It consists of lectures, laboratory study of pathologic histology and demonstrations of gross pathologic material, partly as fixed specimens, but more extensively as demonstrations of fresh autopsy and surgical material brought from the laboratories of the affiliated hospitals. Students visit the Pathology Laboratories of the Boston City Hospital, Massachusetts General Hospital, Peter Bent Brigham Hospital, Children's Hospital, Beth Israel Hospital, New England Deaconess Hospital, Boston Hospital for Women, and the South Huntington Avenue Veterans Hospital, for participation in performance of autopsies.

Lectures are given three days in the week by the staff. The course is divided roughly, though not sharply, into general and special pathology, covering in the first part of the year basic pathologic processes, such as tissue injury and repair, inflammation, tissue responses to specific infectious agents and neoplasia. Special pathology is integrated with the other second year courses and designated as Pathologic Physiology. Eight organs or systems will be thus considered during the present academic year: hematopoietic system, kidney, cardiovascular system, respiratory system, gastrointestinal system, endocrine-reproductive system, musculoskeletal, and nervous system. The pathology of the eye and oral cavity are covered in collaboration with other departments of the University.

Courses in parasitology and neuropathology are given separately by the Department of Tropical Public Health of the Harvard School of Public Health and the Department of Neurology respectively. Neuropathology is, however, one of the component parts of the multi-departmental course, Pathologic Physiology.

FIRST YEAR	HOURS
Lectures and laboratory work. Dr. M. J. KARNOVSKY and ASSOCIATES.	

SECOND YEAR	
Lectures. Dr. M. J. KARNOVSKY and ASSOCIATES.	
Laboratory work. Dr. M. J. KARNOVSKY and ASSOCIATES.	350†

† This figure includes Parasitology and Neuropathology.

Fourth Year Elective Courses *

BLOCK COURSES

501. Advanced Pathology. Dr. DAMMIN.
502. Gynecologic Pathology. Dr. J. M. CRAIG.
503. Fetal and Obstetrical Pathology. Dr. J. M. CRAIG.
504. Advanced Pathology. Drs. COTRAN and GOTTLIEB.
505. Advanced Pathology. Drs. CASTLEMAN and E. B. TAFT.
506. Advanced Pathology. Drs. CASTLEMAN and E. B. TAFT.
507. Advanced Pathology. Dr. FREIMAN.
508. Advanced Pathology. Dr. FARBER.
509. Pathology of Tumors. Dr. MEISSNER.
510. Pathology of Endocrine Diseases. Dr. MEISSNER.

511M. Pathology of Skin — Clinical and Microscopic Correlations. Drs. FITZPATRICK and W. CLARK. (*Same course as Dermatology 503M.*)

512M. Clinical Liver Disease and Gastroenterology. Drs. DAVIDSON, ZAMCHECK and ASSOCIATES. (*Same course as Medicine 514M.*)

513M. Advanced Study in Neuropathology. Dr. ROMANUL. (*Same course as Neurology 502M.*)

514M. Advanced Study in Neuropathology. Dr. E. P. RICHARDSON. (*Same course as Neurology 509M.*)

LONGITUDINAL COURSE

701. Neoplasms of Melanocytes and Related Problems in Cutaneous Pathology. Dr. W. CLARK. (*Same course as Dermatology 704.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Pediatrics

Charles A. Janeway, M.D., A.M. (hon.), M.D. (hon.), Thomas Morgan Rotch Professor of Pediatrics, and Head of the Department at The Children's Hospital.

Nathan B. Talbot, M.D., Charles Wilder Professor of Pediatrics, and Head of the Department at the Massachusetts General Hospital.

William Berenberg, M.D., Clinical Professor of Pediatrics.

Thomas E. Cone, Jr., M.D., Clinical Professor of Pediatrics.

Louis K. Diamond, M.D., Professor of Pediatrics at The Children's Hospital (retired August 31, 1968).

Alexander S. Nadas, M.D., Clinical Professor of Pediatrics.

Harry Shwachman, M.D., Clinical Professor of Pediatrics.

Ralph J. P. Wedgwood, M.D., Visiting Professor of Pediatrics (from December 8, 1968 through December 14, 1968).

John D. Crawford, M.D., Associate Professor of Pediatrics at the Massachusetts General Hospital, and Chairman of the Executive Committee of the Department of Pediatrics.

John F. Crigler, M.D., Associate Clinical Professor of Pediatrics.

Park S. Gerald, M.D., A.M. (hon.), Associate Professor of Pediatrics at The Children's Hospital.

Benedict F. Massell, M.D., Associate Clinical Professor of Pediatrics.

Joel J. Alpert, M.D., Assistant Professor of Pediatrics.

Robert B. Berg, M.D., Assistant Professor of Pediatrics at the Beth Israel Hospital.

John P. Connelly, M.D., Assistant Clinical Professor of Pediatrics.

Allen C. Crocker, M.D., Assistant Clinical Professor of Pediatrics, and Tutor in Medical Sciences.

Francis X. Fellers, M.D., Assistant Professor of Pediatrics at The Children's Hospital.

Donald C. Fyler, M.D., Assistant Clinical Professor of Pediatrics.

Samuel L. Katz, M.D., Assistant Professor of Pediatrics at The Children's Hospital (resigned August 31, 1968).

Jerome O. Klein, M.D., Assistant Professor of Pediatrics.

John W. Littlefield, M.D., Assistant Professor of Pediatrics at the Massachusetts General Hospital, and Tutor in Medical Sciences.

R. Grier Monroe, M.D., Assistant Professor of Pediatrics at The Children's Hospital.

David G. Nathan, M.D., Assistant Professor of Pediatrics at The Children's Hospital.

Nicholas M. Nelson, M.D., Assistant Professor of Pediatrics, and Tutor in Medical Sciences.

Philip J. Porter, M.D., Assistant Clinical Professor of Pediatrics.

Fred S. Rosen, M.D., Assistant Professor of Pediatrics at The Children's Hospital.

Ralph A. Ross, M.D., Assistant Clinical Professor of Pediatrics.

David H. Smith, M.D., Assistant Professor of Pediatrics at The Children's Hospital.

John Kosa, Ph.D., Lecturer on Sociology in the Department of Pediatrics.

Harry L. Mueller, M.D., Lecturer on Pediatrics.

Victor M. Rosenoer, M.B., B.S., Ph.D., Lecturer on Pediatrics at The Children's Hospital.

Eva J. Salber, M.B., Ch.B., M.D., Lecturer on Pediatrics.

T. Berry Brazelton, M.D., Clinical Associate in Pediatrics.

Leo B. Burgin, M.D., Clinical Associate in Pediatrics.

James E. Drorbaugh, M.D., Clinical Associate in Pediatrics.

Walter J. Gamble, M.D., Associate in Pediatrics at The Children's Hospital.

Warren M. Gold, M.D., Associate in Pediatrics at The Children's Hospital, and Tutor in Medical Sciences (resigned February 28, 1969).

Allan Goldblatt, M.D., Associate in Pediatrics at the Massachusetts General Hospital.

Sherwin V. Kevy, M.D., Clinical Associate in Pediatrics.

Martin R. Klemperer, M.D., Associate in Pediatrics at The Children's Hospital, and Tutor in Medical Sciences.

C. Grant LaFarge, M.D., Associate in Pediatrics at The Children's Hospital.

David J. Lang, M.D., Associate in Pediatrics at the Massachusetts General Hospital (resigned July 31, 1968).

Robert P. Masland, Jr., M.D., Clinical Associate in Pediatrics.

Anna T. Mitus, M.D., Clinical Associate in Pediatrics.

Thomas C. Peebles, M.D., Clinical Associate in Pediatrics.

William H. Plauth, Jr., M.D., Associate in Pediatrics at The Children's Hospital.

Dorothy B. Villee, M.D., Associate in Pediatrics, and Tutor in Pediatrics.

Joseph B. Warshaw, M.D., Associate in Pediatrics at the Massachusetts General Hospital.

William D. Winter, Jr., M.D., Clinical Associate in Pediatrics.

Dewitt C. Baldwin, Jr., M.D., Lecturer on Pediatrics.

Phaedon Fessas, M.D., Visiting Lecturer on Pediatrics (from September 12, 1968 through September 18, 1968).

Thomas H. Garner, M.D., Lecturer on Pediatrics.

Sydney S. Gellis, M.D., Lecturer on Pediatrics.

Horace M. Gezon, M.D., Lecturer on Pediatrics.

Paul G. Hugenholtz, M.D., Visiting Lecturer on Pediatrics.

Robert Klein, M.D., Lecturer on Pediatrics.

Demetrius G. Traggis, M.D., Lecturer on Pediatrics.

Louis Weinstein, Ph.D., M.D., Lecturer on Infectious Diseases.

Porter W. Anderson, Jr., Ph.D., Research Associate in Pediatrics (from September 15, 1968).

Irena Antonowicz, Ph.D., Research Associate in Pediatrics.

Halina Borel, M.D., Research Associate in Pediatrics.

Lakshmi Das, M.B., B.S., Research Associate in Pediatrics.

Robert C. Ellison, M.D., Research Associate in Pediatrics.

Marcellinus A. Fredericks, Ph.D., Research Associate in Pediatrics.

Norman I. Gold, Ph.D., Research Associate in Biological Chemistry in the Department of Pediatrics.

Yuet W. Kan, M.B., B.S., Research Associate in Pediatrics.
Kwang W. Ko, M.D., Visiting Research Associate in Pediatrics (from October 15, 1968 through November 30, 1968).
Louis Kopito, M.S., Research Associate in Pediatrics.
Mitsuko T. Laforet, M.D., Research Associate in Pediatrics.
Thomas J. Lawton, A.M., Research Associate in Pediatrics.
Jules G. A. Leroy, M.D., Ph.D., Visiting Research Associate in Pediatrics (from October 1, 1968 through January 15, 1969).
Miriam D. Manning, M.D., Research Associate in Pediatrics.
Marshall Melin, Ph.D., Research Associate in Pediatrics.
Helmuth Mentzel, M.D., Research Associate in Pediatrics (through August 31, 1968).
Leon S. Robertson, Ph.D., Research Associate in Sociology in the Department of Pediatrics.
Amnon Rosenthal, M.D., Research Associate in Pediatrics.
Stephen B. Shohet, M.D., Research Associate in Pediatrics.
Thomas W. Adams, M.D., Instructor in Pediatrics.
Barry R. Adels, M.D., Instructor in Pediatrics.
Theodore W. Avruskin, M.D., Instructor in Pediatrics.
Robert L. Baehner, M.D., Instructor in Pediatrics.
Irving W. Bailit, M.D., Instructor in Pediatrics.
H. Powell Baker, M.D., Instructor in Pediatrics.
Richard S. Baum, M.D., Instructor in Pediatrics.
Mary M. (Hunt) Blair, M.D., Instructor in Pediatrics.
Euan T. Blanch, M.D., Instructor in Pediatrics.
Gerald E. Bloom, M.D., Instructor in Pediatrics (resigned August 15, 1968).
Hans H. Bode, M.D., Instructor in Pediatrics.
Ann M. Briley, M.D., Instructor in Pediatrics.
John K. Brines, M.D., Instructor in Pediatrics.
J. Whitney Brown, M.D., Instructor in Pediatrics.
James J. A. Cavanaugh, M.D., Instructor in Pediatrics.
William D. Cochran, M.D., Instructor in Pediatrics.
Albert Cohen, M.D., Instructor in Pediatrics.
Kelley K. Davis, M.D., Instructor in Pediatrics.
Karel J. de Haas, M.D., Instructor in Pediatrics.

William A. Dickson, M.D., Instructor in Pediatrics.
William R. Dorsey, M.D., C.M., Instructor in Pediatrics.
Edward C. Dyer, M.D., Instructor in Pediatrics.
Ralph Earle, Jr., M.D., Instructor in Pediatrics.
LeRoy L. Eldredge, Jr., M.D., Instructor in Pediatrics.
Lawrence J. Essember, M.D., Instructor in Pediatrics.
Nathan H. Fearer, M.D., Instructor in Pediatrics.
Richard I. Feinbloom, M.D., Instructor in Pediatrics.
Arnold D. Fiascone, M.D., Instructor in Pediatrics.
Joseph N. Fisher, Jr., M.D., Instructor in Pediatrics.
Joseph W. Fowler, III, M.D., Instructor in Pediatrics.
Albert A. Frank, M.D., Instructor in Pediatrics.
Ilse E. J. Gorbach, M.D., Instructor in Pediatrics.
Elizabeth A. Gregory, M.D., Instructor in Pediatrics.
Andrew D. Guthrie, Jr., M.D., Instructor in Pediatrics.
James E. Haddow, M.D., Instructor in Pediatrics.
Herbert A. Haessler, M.D., Instructor in Pediatrics.
Gerald Hass, M.B., B.S., Instructor in Pediatrics.
Gerald W. Hazard, M.D., Instructor in Pediatrics.
Sprague W. Hazard, M.D., Instructor in Pediatrics.
Margaret C. Heagarty, M.D., Instructor in Pediatrics (through December 31, 1968).
Lewis B. Holmes, M.D., Instructor in Pediatrics (from October 1, 1968).
Douglas S. Holsclaw, Jr., M.D., Instructor in Pediatrics (from September 15, 1968).
John P. Hubbell, Jr., M.D., Instructor in Pediatrics.
David Ingall, M.D., Instructor in Pediatrics.
John B. Joseph, M.D., Instructor in Pediatrics.
Josephine G. Kety, M.D., Instructor in Pediatrics.
Kon T. Khaw, M.D., Instructor in Pediatrics.
Howard S. King, M.D., Instructor in Pediatrics.
Morris A. Lambdin, M.D., Instructor in Pediatrics.
Alexander S. MacDonald, Jr., M.D., Instructor in Pediatrics.
Francis C. McDonald, M.D., Instructor in Pediatrics.
Joseph J. McGovern, M.D., Instructor in Pediatrics.

H. Lester Medlinsky, M.D., Instructor in Pediatrics.
Gerald Medoff, M.D., Instructor in Pediatrics.
Myron Morris, M.D., Ph.D., Instructor in Pediatrics.
Lawrence S. Morse, M.D., Instructor in Pediatrics.
Donald M. Muirhead, Jr., M.D., Instructor in Pediatrics.
Otto S. Nau, M.D., Instructor in Pediatrics.
Joseph Osborne, M.D., Instructor in Pediatrics.
Julian L. Pearlman, M.D., Instructor in Pediatrics.
William Pfeffer, Jr., M.D., Instructor in Pediatrics.
Howard J. Potter, M.D., Instructor in Pediatrics.
Siegfried M. Pueschel, M.D., Instructor in Pediatrics.
Daniel R. Rectanus, M.D., Instructor in Pediatrics.
Marshall L. Reiner, Jr., M.D., Instructor in Pediatrics.
Gertrud C. Reyersbach, M.D., Instructor in Pediatrics.
Robert H. Richie, Jr., M.D., Instructor in Pediatrics.
John S. Robey, M.D., Instructor in Pediatrics.
John C. Robinson, M.D., Instructor in Pediatrics.
Oliver F. Roddey, Jr., M.D., Instructor in Pediatrics.
Hedwig E. Rose, M.B., Ch.B., Instructor in Pediatrics (from February 15, 1969).
Jordan S. Ruboy, M.D., Instructor in Pediatrics.
Robert T. Sceery, M.D., Instructor in Pediatrics.
E. Manning Sears, M.D., Instructor in Pediatrics.
Daniel C. Shannon, M.D., Instructor in Pediatrics.
Helen M. Shaw, A.M., Instructor in Nutrition in the Department of Pediatrics (from November 15, 1968).
S. Norman Sherry, M.D., Instructor in Pediatrics.
George L. Siegel, M.D., Instructor in Pediatrics.
Irving Silverman, M.D., Instructor in Pediatrics.
Lendon Snedeker, M.D., Instructor in Pediatrics.
Paul Solomon, M.D., Instructor in Pediatrics.
Herbert S. Strauss, M.D., Instructor in Pediatrics.
Harry B. Stults, Jr., M.D., Instructor in Pediatrics.
John S. Taub, M.D., Instructor in Pediatrics.
Rudolf Toch, M.D., Instructor in Pediatrics.
John T. Truman, M.D., Instructor in Pediatrics.

William J. Turtle, M.D., Instructor in Pediatrics.
John W. G. Tuthill, M.D., Instructor in Pediatrics.
Irving Umansky, M.D., Instructor in Pediatrics.
Wilhelmina M. Van Dyke, M.D., Instructor in Pediatrics.
Willem vanPelt, M.D., Instructor in Pediatrics.
Stella Z. Van Praagh, M.D., Instructor in Pediatrics.
Jacob Wallace, M.D., Instructor in Pediatrics.
Richard H. Watson, M.D., Instructor in Pediatrics.
Wladimir Wertelecki, M.D., Instructor in Pediatrics.
Harold J. Wheeler, M.D., Instructor in Pediatrics.
Catherine M. Wilfert, M.D., Instructor in Pediatrics.
Mary E. B. Wohl, M.D., Instructor in Pediatrics.
Eleonore C. Zaudy, M.D., Instructor in Pediatrics.
Alla G. Zaver, M.B., B.S., Instructor in Pediatrics.
William J. Adelson, M.D., Assistant in Pediatrics.
Donald J. Annino, M.D., Assistant in Pediatrics.
George T. Critz, M.D., Assistant in Pediatrics.
D. Grant Gall, M.D., Assistant in Pediatrics.
George A. Glines, M.D., Assistant in Pediatrics.
Samuel Goldstein, M.D., Assistant in Pediatrics.
Kewal K. L. C. Jain, M.B., B.S., Assistant in Pediatrics.
Elvin Kaplan, M.D., Assistant in Pediatrics.
Richard A. Katz, M.D., Assistant in Pediatrics.
Stephen M. Marcy, M.D., Assistant in Pediatrics.
Robert J. Orme, M.D., Assistant in Pediatrics.
Henry M. Putnam, M.D., Assistant in Pediatrics.
Jules Rako, M.D., Assistant in Pediatrics.
George L. Robb, M.D., Assistant in Pediatrics.
Leslie Silverstone, M.D., D.P.H., Assistant in Pediatrics.
Martin K. White, M.D., Assistant in Pediatrics.
Thomas J. Whitfield, M.D., Assistant in Pediatrics.
Alan Ziskind, M.D., Assistant in Pediatrics.
Jamil M. Abraham, M.B., Ch.B., Research Fellow in Pediatrics.
Mirna I. Aeschlimann-Herrera, M.D., Research Fellow in Pediatrics.
Cigdem Altay, M.D., Research Fellow in Pediatrics.

Richard B. Anderson, M.D., Research Fellow in Pediatrics (from January 1, 1969).

Charles S. August, M.D., Research Fellow in Pediatrics.

Kalin U. Aziz, M.B., B.S., Research Fellow in Pediatrics.

Ingeborg Baethke, M.D., Research Fellow in Pediatrics (from November 1, 1968).

Barbara A. Bell, M.D., Research Fellow in Pediatrics.

Renee K. Bergner, M.D., Research Fellow in .Pediatrics (from August 15, 1968).

Anthony D. Bower, M.D., Research Fellow in Pediatrics.

John M. Carper, M.D., Research Fellow in Pediatrics.

Shen-Hui Chen, M.D., Research Fellow in Pediatrics.

Tai J. Chung, M.D., Research Fellow in Pediatrics.

John M. Cohen, M.D., Research Fellow in Pediatrics.

Loring Conant, Jr., M.D., Research Fellow in Pediatrics.

Joan D. Crain, M.D., Research Fellow in Pediatrics.

Amy Edalji, M.B., B.S., Research Fellow in Pediatrics.

Stephen A. Feig, M.D., Research Fellow in Pediatrics.

Pedro L. Ferrer Reyes, M.D., Research Fellow in Pediatrics (from September 1, 1968).

David Z. Friedberg, M.D., Research Fellow in Pediatrics.

Stuart Handwerger, M.D., Research Fellow in Pediatrics.

Anne-Marie Hausman-Hagemeijer, M.D., Research Fellow in Pediatrics (from October 1, 1968).

John T. Herrin, M.B., B.S., Research Fellow in Pediatrics (from September 1, 1968).

Wen-Feng Jan, M.B., Research Fellow in Pediatrics.

Miep S. Kaempfer, M.D., Research Fellow in Pediatrics.

David W. Khoury, M.D., Research Fellow in Pediatrics.

Michael A. Kornfield, M.D., Research Fellow in Pediatrics.

Yhu H. Lee, M.D., Research Fellow in Pediatrics (from October 1, 1968).

Bertram H. Lubin, M.D., Research Fellow in Pediatrics.

Michael J. Maisels, M.B., Ch.B., Research Fellow in Pediatrics (resigned January 15, 1969).

Avron J. Maletzky, M.D., Research Fellow in Pediatrics (resigned October 31, 1968).

Edward B. Marsh, Jr., M.D., Research Fellow in Pediatrics

William C. Mentzer, Jr., M.D., Research Fellow in Pediatrics.

Ann J. Milner, Ph.D., Research Fellow in Pediatrics (from September 1, 1968).

Lemuel Morrison, M.D., Research Fellow in Pediatrics (from September 1, 1968).

Lucy F. Parisi, M.D., Research Fellow in Pediatrics.

Ambadas Pathak, M.D., M.B., B.S., Research Fellow in Pediatrics.

Jane Pitt, M.D., Research Fellow in Pediatrics.

Mary E. Puttee, M.D., Research Fellow in Pediatrics.

Norma J. Restieaux, M.B., Ch.B., Research Fellow in Pediatrics.

Vincent M. Riccardi, M.D., Research Fellow in Pediatrics.

Sol Rockenmacher, M.D., Research Fellow in Pediatrics.

Armido Rubino, M.D., Research Fellow and Pediatrics (from January 1, 1969).

Shirley B. Russell, Ph.D., Research Fellow in Pediatrics (from September 1, 1968).

Immanuel Schorr, M.D., Research Fellow in Pediatrics.

Harnish K. V. Shah, M.B., B.S., Research Fellow in Pediatrics.

Franco P. Stocker, M.D., Research Fellow in Pediatrics.

Yshawant B. Talwalkar, M.B., Ch.B., M.D., Research Fellow in Pediatrics.

Lloyd D. Tarlin, M.D., Research Fellow in Pediatrics.

Yen C. Tsao, M.B., B.S., Research Fellow in Pediatrics (from October 1, 1968).

Michael J. Tyrrell, M.B., B.S., Research Fellow in Pediatrics.

Nirmala N. Vashi, M.B., B.S., Research Fellow in Pediatrics (through August 31, 1968).

Victor Whitman, M.D., Research Fellow in Pediatrics.

Richard M. Zakheim, M.D., Research Fellow in Pediatrics.

Nikitas J. Zervanos, M.D., Research Fellow in Pediatrics.

Stephen O. Atherton, M.D., Teaching Fellow in Pediatrics.

Leslie L. Barton, M.D., Teaching Fellow in Pediatrics.

John P. Cloherty, M.D., Teaching Fellow in Pediatrics.

Fredric B. Garner, M.D., Teaching Fellow in Pediatrics.

Michael L. Goldfein, M.D., Teaching Fellow in Pediatrics.

Lee I. Hoffman, M.D., Teaching Fellow in Pediatrics.

John R. Hollister, M.D., Teaching Fellow in Pediatrics.
Joan M. Leary, M.D., Teaching Fellow in Pediatrics.
Melvyn B. Levine, M.D., Teaching Fellow in Pediatrics.
Melvin D. Levine, M.D., Teaching Fellow in Pediatrics.
John D. Lloyd-Still, M.B., B.S., Teaching Fellow in Pediatrics.
Frederick H. Lovejoy, Jr., M.D., Teaching Fellow in Pediatrics.
Geraldine H. McCormack, M.D., Teaching Fellow in Pediatrics.
Eva R. McHugh, M.D., Teaching Fellow in Pediatrics.
Thomas K. McInerny, M.D., Teaching Fellow in Pediatrics.
R. Heather Palmer, M.B., B.Ch., Teaching Fellow in Pediatrics (resigned August 31, 1968).
Georges Peter, M.D., Teaching Fellow in Pediatrics.
Lois A. Pounds, M.D., Teaching Fellow in Pediatrics.
John B. G. Trouern-Trend, M.B., Ch.B., Teaching Fellow in Pediatrics.
Katherine P. Wolf, M.D., Teaching Fellow in Pediatrics.

Required Courses

Pediatrics. *Second Year.* — During appropriate sections of the period devoted to correlative teaching in the second semester, pediatric lectures are given on adjustments of respiration, renal regulation, digestion and metabolism, and endocrinology, in early life. Participation by members of the Department of Pediatrics in laboratory and demonstration exercises devoted to these and other body systems further introduces concepts of growth and development into the study of morphology and function in this period.

Pediatrics. *Introduction to the Clinic.* — The student is taught the special aspects of infants and children as patients by those Department members attached to the hospital to which he is assigned for the course in Introduction to the Clinic.

Pediatrics. *Principal Clinical Year.* — Pediatrics is taught intensively to one-eighth of the class at a time for six weeks at either The Children's Hospital Medical Center or the Massachusetts General Hospital. Insofar as possible, students "introduced to the clinic" at one hospital will be assigned for this six weeks of pediatrics to another. By classroom demonstrations and, especially, by working

in small supervised sections in the wards and outpatient clinics, students learn by participation the prevention, diagnosis, and treatment of disease in infants and children, and the care of the well child.

SECOND YEAR	HOURS
Clinical lectures. C.H.M.C. Second half year	4

INTRODUCTION TO THE CLINIC

Clinical Instruction.

PRINCIPAL CLINICAL YEAR

Clinical Clerkship. C.H.M.C., M.G.H.	240

Fourth Year Elective Courses *

BLOCK COURSES

501M. General Pediatrics — Wards. Drs. Janeway, Diamond, and Berenberg.
502M. General Pediatrics — Ambulatory Services. Dr. Cone.
503M. Pediatric Practice in a Rural Area. Dr. R. Berg.
504M. Family Health Care Program — Short Course. Dr. Alpert and Associates.
506M. Medical Care of Adolescents. Dr. Masland and Associates.
507M. Cardiology. Dr. Nadas and Associates.
508M. Endocrinology and Metabolism. Dr. Crigler and Associates.
509M. Clinical Genetics. Dr. Gerald and Associates.
510M. Hematology. Drs. Diamond, Nathan, and Associates. (*Same course as Medicine 554M.*)
511M. Neonatal Pediatrics. Drs. N. M. Nelson, W. D. Cochran and Associates.
512M. Neoplastic Diseases. Dr. Farber and Associates.
513M. Clinical Nutrition. Dr. Shwachman and Associates.
514M. Diseases of Protein Metabolism and Immunologic Responses. Dr. F. S. Rosen and Associates.
515M. Renal Metabolism. Dr. Fellers and Associates.
516M. Rheumatic Fever and Rheumatic Heart Disease. Dr. Massell and Associates.
517M. Pediatric Neurology. Dr. C. F. Barlow. (*Same course as Neurology 503M.*)
518M. General Pediatrics. Dr. Talbot.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

519M. Metabolism and Endocrinology. Dr. Crawford.
522M. Pediatric Neurology. Drs. Adams, Rosman, Scholl, and Salam. (*Same course as Neurology 506M.*)
523M. Pediatric Neurology. Drs. Adams and Rosman. (*Same course as Neurology 507M.*)
524M. Pediatric Neurology. Dr. Moser. (*Same course as Neurology 508M.*)
525M. Pediatric Surgery. Dr. Hendren. (*Same course as Surgery 513M.*)
526M. Infectious Disease. Dr. L. Weinstein.
527M. Children's Surgery. Dr. Gross and Associates. (*Same course as Surgery 502M.*)
528M. Pediatric Care in a Community Hospital. Dr. Porter.
529M. Pediatric and Adult Cardiology. Drs. Goldblatt and Haber.

LONGITUDINAL COURSES

701. Pediatric Urologic Problems. Dr. Perlmutter. (*Same course as Surgery 704.*)
702M. Family Health Care Program. Drs. Alpert, J. W. Brown, Bullard, Budner, Buxbaum, Feinbloom, Heargarty, Robbins, and Associates. (*Also listed in Interdepartmental Section.*)
703. Medical Sociology. Dr. Kosa and Associates.

Department of Pharmacology

Douglas R. Waud, M.D., D.Phil., Assistant Professor of Pharmacology, Tutor in Pharmacology, and Acting Head of the Department.

Ullrich G. Trendelenburg, M.D., Ph.D., A.M. (hon.), Associate Professor of Pharmacology (through November 30, 1968).

John R. Blinks, M.D., Assistant Professor of Pharmacology (resigned August 31, 1968).

Paul R. Draskoczy, M.D., Assistant Professor of Pharmacology.

Werner E. Flacke, M.D., Assistant Professor of Pharmacology.

Roger T. Kelleher, Ph.D., Assistant Professor of Pharmacology.

Jan Koch-Weser, M.D., Assistant Professor of Pharmacology.

Lincoln T. Potter, M.D., Assistant Professor of Pharmacology.

Hugues J. P. Ryser, M.D., Assistant Professor of Pharmacology.

Ernest E. Seifen, M.D., Assistant Professor of Pharmacology (from September 1, 1968).

Geoffrey W. G. Sharp, Ph.D., Assistant Professor of Pharmacology at the Massachusetts General Hospital.

Martin Lubin, M.D., Ph.D., Visiting Assistant Professor of Pharmacology (through December 31, 1968).

Camille B. Olson, Ph.D., Associate in Pharmacology.

Ullrich G. Trendelenburg, M.D., Ph.D., A.M. (hon.), Lecturer on Pharmacology (from December 1, 1968 through March 31, 1969).

Alberto J. Kaumann, M.D., Instructor in Pharmacology (resigned July 31, 1968).

Larry D. Byrd, Ph.D., Research Fellow in Pharmacology.

Rafael A. Campo, D.Pharm., Research Fellow in Pharmacology (from August 1, 1968).

Anne Clark, Ph.D., Research Fellow in Pharmacology (through August 31, 1968).

Samuel D. Dalrymple, Ph.D., Research Fellow in Pharmacology (from September 1, 1968).

Lourdes L. Foo-canto, M.D., Research Fellow in Pharmacology (through August 31, 1968).

Marie-Pierre I. Gabathuler, M.S., Research Fellow in Pharmacology (through October 31, 1968).

Christina Goldfine, B.Sc., Research Fellow in Pharmacology (from October 1, 1968).

Frederico G. Graeff, M.D., Research Fellow in Pharmacology (from August 15, 1968).

Stuart W. Klein, M.D., Research Fellow in Pharmacology.

Phyllis J. Kornguth, Ph.D., Research Fellow in Pharmacology (from September 15, 1968).

John E. Markis, M.D., Research Fellow in Pharmacology.

M. Jackson Marr, Ph.D., Research Fellow in Pharmacology (through September 15, 1968).

Salvatore B. Pluchino, M.D., Research Fellow in Pharmacology (resigned February 20, 1969).

Anita B. Roberts, Ph.D., Research Fellow in Pharmacology (from October 1, 1968).

Hans E. Rugstad, M.D., Research Fellow in Pharmacology.

Ronald I. Schoenfeld, Ph.D., Research Fellow in Pharmacology.

Edward M. Sellers, M.D., Research Fellow in Pharmacology.

Erika C. E. Treder, M.D., Research Fellow in Pharmacology (from September 1, 1968 through October 31, 1968).

Menno Van Leeuwen, M.D., Research Fellow in Pharmacology (resigned July 31, 1968).

Wolfgang R. Wuttke, D.Sc., Research Fellow in Pharmacology.

Required Courses

During the academic year 1968–69 two programs of instruction are in effect. The first year class is participating in a new curriculum, while the second year class is completing the "old" program. In subsequent years the first year course only will be offered.

Pharmacology. *First Year* (*new program*). — The course in pharmacology has become an integral part of the sections on Cell Biology, Human Biology I, Human Biology II, and Human Biology III, which

take place in the first semester of the first year, second semester of the first year, June and July of the first year, and fall semester of the second year respectively. In the Cell Biology area there is a brief introduction to general principles of pharmacology including a discussion of uptake and distribution of drugs, interaction of drugs and receptors, principles of drug metabolism, etc. In the cardiovascular section of Human Biology I, pharmacology of the autonomic nervous system and of drugs acting on the cardiovascular system are discussed both with regard to the pharmacology of the agents involved and to illustrate the method of approach to the analysis of drug action. In Human Biology II (Neurosciences) there are 12 half days in which topics such as general anesthesia, action of drugs in behavior, use of drugs to modify pain, etc., are discussed. During this period, topics such as the action of drugs on the autonomic nervous system are reviewed and consolidated. Finally there are groups of lectures on specific classes of agents (for example, diuretics, drugs acting in the gastrointestinal tract, etc.) which are discussed as an integral part of the organ-oriented approach to specific areas such as biology of the kidney or of the gastrointestinal tract.

The format of the course is principally that of a lecture course supplemented with demonstrations, laboratory exercises, and small group conferences, where appropriate. This introductory course does not run as a distinct entity with a separate regular schedule. Lectures, etc., are scheduled as much as possible to relate to the general first and second year medical curriculum. Therefore, to obtain dates and times of lectures, etc., consult the general first and second year Harvard Medical School schedules.

PHARMACOLOGY. *Second Year.* — The course in Pharmacology consists of lectures, demonstrations, experimental laboratory exercises and conferences. Concepts of general importance in pharmacology and toxicology are presented and the opportunity is provided for students to become acquainted with important drugs. Emphasis is placed on those actions of pharmacological agents which help in understanding the disordered physiology of disease and which are of importance in the rational treatment of disease. The mode of action of important drugs is discussed. In the laboratory, the student is able to become acquainted at first hand with some of the experimental facts, obtained from studies on man and animals, which provide the starting points for the analysis of pharmacological effects.

FIRST YEAR

Lectures, conferences, and laboratories. Dr. WAUD and ASSOCIATES.

SECOND YEAR HOURS

Lectures. Dr. WAUD and ASSOCIATES. One hour, three times a week: Tuesday, Thursday and Saturday mornings, first half year. Members of the staff of the Department of Pharmacology will continue the teaching of Pharmacology in collaboration with other departments in the integrated program of the second half year.

Laboratory work and conferences. Dr. WAUD and ASSOCIATES. Tuesday mornings, first half year. Further exercises in Pharmacology will be conducted as part of the integrated program of the second half year. 120

*Fourth Year Elective Courses**

LONGITUDINAL COURSES

701. Selected Topics in Pharmacology. Dr. TRENDELENBURG and ASSOCIATES.
702. Pharmacotherapeutics. Dr. J. KOCH-WESER, ASSOCIATES, and MEMBERS OF THE DEPARTMENT OF MEDICINE. (*Same course as Medicine 716.*)
706. Selected Topics in Human Pharmacology. Dr. W. E. FLACKE and ASSOCIATES.
707. Endocrinology. Dr. TASHJIAN and ASSOCIATES.
708. Chemical Carcinogenesis. Dr. RYSER.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Physiology

Thomas H. Wilson, M.D., Ph.D., A.M. (hon.), Professor of Physiology, and Head of the Department.

A. Clifford Barger, M.D., Robert Henry Pfeiffer Professor of Physiology.

John R. Pappenheimer, Ph.D., George Higginson Professor of Physiology, and Career Investigator of the American Heart Association.

*Arthur K. Solomon, Ph.D., D.Phil., Professor of Biophysics.

Patrick Meares, Ph.D., D.Sc., Visiting Professor of Biophysics (from February 1, 1969).

Richard D. Berlin, M.D., Assistant Professor of Physiology.

S. Roy Caplan, Ph.D., Assistant Professor of Biophysics.

H. Maurice Goodman, Ph.D., Assistant Professor of Physiology.

Elwood Henneman, M.D., Assistant Professor of Physiology, and Ella Sachs Plotz Fellow in Physiology.

James A. Herd, M.D., Assistant Professor of Physiology.

Donald L. D. Caspar, Ph.D., Lecturer on Biophysics at the Children's Cancer Research Foundation.

Carolyn Cohen, Ph.D., Lecturer on Biophysics at the Children's Cancer Research Foundation.

Vladimir Fencl, M.D., Associate in Physiology.

Leon Goldstein, Ph.D., Lecturer on Physiology.

Herman Goslyn, Research Associate in Physiology.

Dorothea E. W. Hellman, M.D., Research Associate in Physiology.

Leeroy G. Jones, M.D., Research Associate in Physiology (from August 15, 1968).

Eva R. Kashket, Ph.D., Research Associate in Physiology.

Ove B. Lundgren, Ph.D., Research Associate in Physiology.

William Simon, Ph.D., Research Associate in Physiology (resigned October 4, 1968).

Min-Fu Tsan, M.B., Research Associate in Physiology (through September 30, 1968).

* Appointment under the Committee on Medical Research in Biophysics.

Herbert Benson, M.D., Instructor in Physiology.

Alfred L. Goldberg, Ph.D., Instructor in Physiology.

Lorne M. Mendell, Ph.D., Instructor in Physiology (through August 31, 1968).

James C. Houk, Ph.D., Instructor in Physiology.

Ramadan I. Sha'afi, Ph.D., Instructor in Biophysics.

Reinaldo V. Di Polo, M.D., Research Fellow in Biophysics.

Robert D. Fisher, M.D., Research Fellow in Physiology.

Jean-Pierre Grunfeld, M.D., Research Fellow in Physiology (from September 1, 1968).

Ralph H. Janicki, Ph.D., Research Fellow in Physiology (through August 31, 1968).

Yvonne Lange, Ph.D., Research Fellow in Biophysics.

Braj M. Misra, Ph.D., Research Fellow in Biophysics (from August 15, 1968).

Frank A. Rawlins, Lic. in Biol., Research Fellow in Biophysics.

Alberto G. Romualdez, Jr., M.D., Research Fellow in Biophysics.

Peter J. Sherwood, Ph.D., Research Fellow in Biophysics.

Franco R. Spinelli, M.D., Research Fellow in Physiology.

Peter Sterling, Ph.D., Research Fellow in Physiology (through August 31, 1968).

Joseph L. Stinson, M.D., Research Fellow in Physiology (through August 31, 1968).

Rebekah A. Taube, A.M., Research Fellow in Physiology.

Nancy M. Tooney, Ph.D., Research Fellow in Biophysics.

Paul T. Wong, Ph.D., Research Fellow in Physiology (from September 1, 1968 through May 31, 1969).

Francisco L. Vieira, M.D., Research Fellow in Biophysics.

Reinier Beeuwkes, S.B., Teaching Fellow in Physiology (from October 1, 1968 through January 31, 1969).

Frederic Fay, AB., Teaching Fellow in Physiology (from October 1, 1968 through January 31, 1969).

Richard Hawkins, S.B., Teaching Fellow in Physiology (from October 1, 1968 through January 31, 1969).

Thomas W. Honeyman, A.B., Teaching Fellow in Physiology.

Albert J. Hudspeth, A.B., Teaching Fellow in Physiology.

John Pritchard, A.B., Teaching Fellow in Physiology (from October 1, 1968 through January 31, 1969).

Diane Robbie, A.B., Teaching Fellow in Physiology (from October 1, 1968 through January 31, 1969).

Joshua Singer, S.B., Teaching Fellow in Physiology (from October 1, 1968 through May 31, 1969).

Required Course

Physiology. *First Year* (*new program*). — As a part of the first semester's course in Cell Biology the students are exposed to some principles of cell physiology given in six lectures and five conference hours. Topics covered include membrane permeability, osmotic properties of cells, diffusion and active transport. These principles are illustrated in various mammalian cells. Active and passive transport of ions are discussed with special reference to nerve resting potential and action potential, ionic basis for synaptic transmission.

During the second semester, the Department of Physiology participates in the teaching of Human Biology I and II (See page 96).

FIRST YEAR

Lectures and laboratory work. Drs. Barger, Berlin, Fencl, Goldberg, Goldstein, Goodman, Henneman, Herd, Houk, Pappenheimer, Solomon, and Wilson.

*Fourth Year Elective Courses**

LONGITUDINAL COURSES

702. Electronic Data Processing Techniques in the Field of Physiology. Dr. W. Simon and Associates.
703. Differential Equations of Physiology, Classical and Computer Methods. Dr. W. Simon and Associates.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Preventive Medicine

David D. Rutstein, M.D., Ridley Watts Professor of Preventive Medicine, and Head of the Department.

Osler L. Peterson, M.D., A.M. (hon.), Professor of Preventive Medicine.

Theodore Colton, S.D., Assistant Professor of Biostatistics in the Department of Preventive Medicine.

Roger H. Sweet, M.D., Assistant Professor of Preventive Medicine, and Tutor in Social Medicine.

Alexander M. Burgess, Jr., M.D., Lecturer on Preventive Medicine.

Leonard W. Cronkhite, Jr., M.D., Lecturer on Preventive Medicine.

John G. Freymann, M.D., Lecturer on Preventive Medicine.

James B. Hartgering, M.D., Lecturer on Preventive Medicine.

William B. Kannel, M.D., Associate in Preventive Medicine (part time).

Paul S. Levy, Sc.D., Associate in Preventive Medicine.

William P. Castelli, M.D., Lecturer on Preventive Medicine.

Murray Eden, Ph.D., Lecturer on Preventive Medicine.

Bernard S. Bloom, A.B., Research Associate in Preventive Medicine (from November 1, 1968).

Sonja J. Hemmer, A.M., Research Associate in Preventive Medicine.

Rita J. Nickerson, A.M., Research Associate in Preventive Medicine.

Alfred F. Popoli, S.M., Research Associate in Preventive Medicine.

Thomas F. Weiss, Ph.D., Research Associate in Preventive Medicine.

John N. Forrest, Jr., M.D., Instructor in Preventive Medicine.

George F. Grady, M.D., Instructor in Preventive Medicine.

Andrew C. Twaddle, M.A., Instructor in Preventive Medicine.

Mary A. Whelan, Ph.D., Teaching Fellow in Preventive Medicine.

PHILIP A. WOLF, M.D., Instructor in Preventive Medicine.

The preventive aspects of medicine and its various specialties are taught in all departments of the Medical School, and arrangements are made for the integration of such teaching with the more formal teaching in the required course in preventive medicine. An effort is made to stress those aspects of preventive medicine which concern the practicing physician, rather than those which concern the public health officer.

Required Courses

QUANTITATIVE METHODS IN MEDICINE. *First Year.*—Dr. COLTON, Prof. EDEN, Dr. LEVY, and ASSOCIATES. Instruction in Quantitative Methods in Medicine is tailored to meet the mathematical and statistical background, and the needs and the career aspirations of the individual student. Three simultaneous courses are given: Introductory Biostatistics, Intermediate Biostatistics, and Introductory Biomathematics. To be eligible for admission to the courses in Intermediate Biostatistics or in Introductory Biomathematics, the student with appropriate statistical and mathematical background must pass a qualifying examination with an honor grade.

Introductory Biostatistics. This course is concerned with the application of statistical reasoning to medicine and to the logical basis for reaching conclusions from numerical evidence. This course is designed for the future practicing physician as he encounters and interprets laboratory and diagnostic data, and as he critically reads the medical literature.

Intermediate Biostatistics. This intermediate course is concerned with the theory underlying the material presented in the Introductory Course and includes such additional methods as correlation and regression, analysis of variance, non-parametric statistics and sequential analysis. The course is given from the point of view of the medical and biological investigator.

Introductory Biomathematics. This mathematics course is concerned mainly with probability theory and the stochastic processes as they relate to mathematical models in biological and medical research. Admission to this course is limited to those students whose background and competence are adequate to apply mathematics to the medical and biological sciences.

Preventive Medicine. *Principal Clinical Year.* — The course in preventive medicine consists of clinics, lectures, and symposia. Basic material in the disciplines of Epidemiology, Biostatistics, and Biomathematics are presented. Exercises are conducted in the critical reading of medical literature and the evaluation of medical evidence. The preventive aspects of clinical medicine are correlated, with due regard for the rapid changes now going on in medical care, with information in the fields of social medicine, occupational medicine, medical economics, and man-made diseases.

A Health Resources Survey, evaluating community facilities for the total medical care of specified patients, is required of all students.

FIRST YEAR	HOURS
Quantitative Methods in Medicine. — Lectures and laboratory seminar periods. Dr. Colton, Prof. Eden, Dr. Levy, and Associates.	12

SECOND YEAR

Epidemiology of infectious diseases is taught to the second year students in conjunction with the required course in Bacteriology.

PRINCIPAL CLINICAL YEAR	HOURS
Clinics, symposia, and lectures. Drs. Rutstein, Peterson, and Associates, in cooperation with representatives of other departments.	70
Health Resources Survey and individual student conference.	50

*Fourth Year Elective Courses**

BLOCK COURSES

501. Advanced Preventive Medicine — General Survey Course. Dr. Rutstein and Associates.
502. Epidemiology. Drs. Rutstein, Poskanzer, Kannel, Paffenbarger, and Sweet.
503. Advanced Preventive Medicine — Individual Teaching. Dr. Rutstein and Associates.
504M. Neurology and Preventive Medicine. Dr. Poskanzer. (*Same course as Neurology 511M.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

505. Preventive and Social Medicine in a General Hospital. Drs. Poskanzer, Sweet, and Associates.
506. Chronic Disease Epidemiology. Drs. Rutstein, Kannel, Poskanzer, Castelli, Colton, and Associates.
507. Medical Care Studies. Drs. Peterson, Burgess, and Buxbaum.

LONGITUDINAL COURSES

701. Biostatistics. The Design of Clinical Investigation. Drs. Rutstein and Colton.
702. Biostatistics. Design of Experiments. Professor Cochran. (*Same course as Statistics 140, Faculty of Arts and Sciences.*)
703. Biostatistics. Mathematical Statistics. (*Same course as Statistics 190, Faculty of Arts and Sciences.*)
704. Biostatistics. Introduction to Stochastic Processes. (*Same course as Statistics 171, Faculty of Arts and Sciences.*)
705. Issues in Medical Care. Drs. Peterson, Yerby, and Associates.

Department of Psychiatry

Leon Eisenberg, M.D., A.M. (hon.), Professor of Psychiatry, and Head of the Department at the Massachusetts General Hospital.

Jack R. Ewalt, M.D., A.M. (hon.), Bullard Professor of Psychiatry, Head of the Department at the Massachusetts Mental Health Center, and Chairman of the Executive Committee of the Department of Psychiatry.

Gerald Caplan, M.B., Ch.B., M.D., D.P.M., Clinical Professor of Psychiatry.

Peter B. Dews, M.B., Ch.B., Ph.D., A.M. (hon.), Stanley Cobb Professor of Psychiatry and Psychobiology, and Tutor in Behavioral Physiology and Pharmacology.

George E. Gardner, Ph.D., M.D., Professor of Psychiatry at The Children's Hospital.

Seymour S. Kety, M.D., A.M. (hon.), Professor of Psychiatry at the Massachusetts General Hospital.

John C. Nemiah, M.D., Professor of Psychiatry at the Beth Israel Hospital, and Tutor in Psychiatry, and Secretary to the Faculty of Medicine (from January 17, 1969).

Elvin V. Semrad, M.D., A.M. (hon.), Professor of Psychiatry at the Massachusetts Mental Health Center.

Philip Solomon, M.D., Clinical Professor of Psychiatry.

Morris E. Chafetz, M.D., Associate Clinical Professor of Psychiatry.

Frank R. Ervin, M.D., Associate Clinical Professor of Psychiatry, and Tutor in Psychiatry.

Henry M. Fox, M.D., Associate Clinical Professor of Psychiatry.

Lester Grinspoon, M.D., Associate Clinical Professor of Psychiatry.

Leston L. Havens, M.D., Associate Clinical Professor of Psychiatry.

Elliot G. Mishler, Ph.D., Associate Clinical Professor of Psychology in the Department of Psychiatry.

William H. Morse, Ph.D., Associate Professor of Psychobiology in the Department of Psychiatry.

Gregory Rochlin, M.D., Associate Clinical Professor of Psychiatry.

Peter E. Sifneos, M.D., Associate Clinical Professor of Psychiatry.

Alfred H. Stanton, M.D., A.M. (hon.), Associate Professor of Psychiatry at the McLean Hospital.

Avery D. Weisman, M.D., Associate Clinical Professor of Psyciatry.

Elizabeth R. Zetzel, M.D., Associate Clinical Professor of Psychiatry.

Howard T. Blane, Ph.D., Assistant Clinical Professor of Psychology in the Department of Psychiatry (on leave September 1, 1968 through May 31, 1969).

Samuel Bojar, M.D., Assistant Clinical Professor of Psychiatry.

C. Keith Conners, Ph.D., Assistant Professor of Psychology in the Department of Psychiatry at the Massachusetts General Hospital.

Harold W. Demone, Jr., Ph.D., Assistant Clinical Professor of Social Welfare in the Department of Psychiatry.

Thomas F. Dwyer, M.D., Assistant Clinical Professor of Psychiatry.

Stanley H. Eldred, M.D., Assistant Professor of Psychiatry at the McLean Hospital.

Daniel H. Funkenstein, M.D., Assistant Professor of Psychiatry.

Sanford R. Gifford, M.D., Assistant Clinical Professor of Psychiatry.

Henry U. Grunebaum, M.D., Assistant Clinical Professor of Psychiatry.

Howard T. Hermann, M.D., Assistant Professor of Psychiatry at the McLean Hospital.

Paul M. Howard, M.D., Assistant Clinical Professor of Psychiatry.

Louisa P. Howe, Ph.D., Assistant Professor of Sociology in the Department of Psychiatry.

Bellenden R. Hutcheson, M.D., Assistant Clinical Professor of Psychiatry.

John E. Mack, M.D., Assistant Clinical Professor of Psychiatry.

Edward A. Mason, M.D., Assistant Clinical Professor of Psychiatry.

Benjamin J. Murawski, Ph.D., Assistant Clinical Professor of Psychology in the Department of Psychiatry.

William F. Murphy, M.D., Assistant Clinical Professor of Psychiatry.

Joseph J. Schildkraut, M.D., Assistant Professor of Psychiatry.

Richard I. Shader, M.D., Assistant Professor of Psychiatry.

David Shapiro, Ph.D., Assistant Professor of Psychology in the Department of Psychiatry.

Harvey M. Shein, M.D., Assistant Professor of Psychiatry at the McLean Hospital.

Samuel Silverman, M.D., Assistant Clinical Professor of Psychiatry.

Alan A. Stone, M.D., Assistant Professor of Psychiatry at the McLean Hospital.

Peter H. Wolff, M.D., Assistant Professor of Psychiatry at The Children's Hospital.

Norman E. Zinberg, M.D., Assistant Clinical Professor of Psychiatry.

Francis L. A. de Marneffe, M.B., B.S., Lecturer on Psychiatry.

David J. Myerson, M.D., Lecturer on Psychiatry.

Robert S. Weiss, Ph.D., Lecturer on Sociology in the Department of Psychiatry.

Harold S. Albert, M.D., C.M., Clinical Associate in Psychiatry.

Henry G. Altman, M.D., Clinical Associate in Psychiatry.

Martin A. Berezin, M.D., Clinical Associate in Psychiatry.

Dexter M. Bullard, Jr., M.D., Associate in Psychiatry at The Children's Hospital.

Jacob Christ, M.D., Clinical Associate in Psychiatry.

Raquel E. Cohen, M.D., Clinical Associate in Psychiatry.

Edward M. Daniels, M.D., Clinical Associate in Psychiatry.

Freddy H. Frankel, M.B., Ch.B., Clinical Associate in Psychiatry.

Richard Galdston, M.D., Associate in Psychiatry at The Children's Hospital.

Thomas P. Hackett, M.D., Clinical Associate in Psychiatry.

L. Lee Hasenbush, M.D., Clinical Associate in Psychiatry.

J. Allan Hobson, M.D., Associate in Psychiatry.

Irene Jakab, M.D., Ph.D., Associate in Psychiatry at the McLean Hospital.

Ralph J. Kahana, M.D., Clinical Associate in Psychiatry.

Merton J. Kahne, M.D., Clinical Associate in Psychiatry.

Stanley S. Kanter, M.D., Clinical Associate in Psychiatry.

John H. Lamont, M.D., Clinical Associate in Psychiatry.

Aaron Lazare, M.D., Associate in Psychiatry at the Massachusetts General Hospital.

Sidney Levin, M.D., Clinical Associate in Psychiatry.

Richard Longabaugh, Ed.D., Associate in Social Psychology in the Department of Psychiatry at the McLean Hospital.

Maria Lorenz, M.D., Clinical Associate in Psychiatry.

Alfred O. Ludwig, M.D., Clinical Associate in Psychiatry.

John M. MacKenzie, M.D., Clinical Associate in Psychiatry.

Elizabeth S. Makkay, M.D., Associate in Psychiatry at The Children's Hospital.

Robert H. McCarter, M.D., Clinical Associate in Psychiatry.

Peter J. M. McEwan, Ph.D., Associate in Sociology in the Department of Psychiatry (resigned September 30, 1968).

Norbett L. Mintz, Ph.D., Associate in Psychology in the Department of Psychiatry at the McLean Hospital.

Arnold H. Modell, M.D., Clinical Associate in Psychiatry.

Peter E. Nathan, Ph.D., Associate in Psychology in the Department of Psychiatry.

Silvio J. Onesti, Jr., M.D., C.M., Clinical Associate in Psychiatry.

Edmund C. Payne, M.D., Clinical Associate in Psychiatry.

Peter Reich, M.D., Associate in Psychiatry.

A. Michael Rossi, Ph.D., Associate in Psychology in the Department of Psychiatry.

Herbert C. Schulberg, Ph.D., Associate in Psychology in the Department of Psychiatry.

Laurence D. Trevett, M.D., Clinical Associate in Psychiatry.

Arthur F. Valenstein, M.D., Clinical Associate in Psychiatry.

John Vorenberg, M.D., Clinical Associate in Psychiatry.

Stanley Walzer, M.D., Associate in Psychiatry at The Children's Hospital.

Nancy E. Waxler, Ph.D., Associate in Social Psychology in the Department of Psychiatry.

Jerome L. Weinberger, M.D., Clinical Associate in Psychiatry.

Justin L. Weiss, Ph.D., Clinical Associate in Psychology in the Department of Psychiatry.

Henry Wermer, M.D., Clinical Associate in Psychiatry (died November 5, 1968).

Donald Wexler, M.D., Clinical Associate in Psychiatry.

Gerald Adler, M.D., Lecturer on Psychiatry.

Theodore I. Anderson, M.D., Lecturer on Psychiatry (from November 1, 1968).

Gerald A. Berlin, L.L.B., Lecturer on Law in the Department of Psychiatry

Louis S. Chase, M.D., Lecturer on Psychiatry.

Jerome A. Collins, M.D., Lecturer on Psychiatry (from January 1, 1969).

James W. Dykens, M.D., Lecturer on Psychiatry.

Joseph T. English, M.D., Lecturer on Psychiatry (from November 1, 1968).

William A. Fraenkel, Ph.D., Lecturer on Psychology in the Department of Psychiatry.

Milton Greenblatt, M.D., Lecturer on Psychiatry.

Kenneth Heller, Ph.D., Visiting Lecturer on Psychology in the Department of Psychiatry (from September 1, 1968).

Cliffe D. Joel, Ph.D., Lecturer on Biological Chemistry in the Department of Psychiatry (through March 31, 1969).

Lewis B. Klebanoff, Ph.D., Lecturer on Psychology in the Department of Psychiatry.

Bernard M. Kramer, Ph.D., Lecturer on Psychology in the Department of Psychiatry.

James H. Lave, Ph.D., Lecturer on Sociology in the Department of Psychiatry (from February 1, 1969).

Armand L. McGarry, M.D., Lecturer on Psychiatry (from February 1, 1969).

Cecil Mushatt, M.D., Lecturer on Psychiatry.

Joseph B. Parker, Jr., M.D., Visiting Lecturer on Psychiatry (from September 1, 1968).

Chester M. Pierce, M.D., Lecturer on Psychiatry (from November 1, 1968).

Charles A. Pinderhughes, M.D., Lecturer on Psychiatry.

Eveoleen N. Rexford, M.D., Lecturer on Psychiatry.

Joseph C. Rheingold, M.D., Ph.D., Lecturer on Psychiatry.

Leon N. Shapiro, M.D., Lecturer on Psychiatry.

Edwin S. Zolik, Ph.D., Visiting Lecturer on Psychology in the Department of Psychiatry (from September 1, 1968).

Clint D. Anderson, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Michael D. Appleby, Ph.D., Research Associate in City Planning in the Department of Psychiatry (from October 1, 1968).

Frank Baker, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Milton Budoff, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Rose L. Coser, Ph.D., Research Associate in Sociology in the Department of Psychiatry.

Andrew B. Crider, Ph.D., Research Associate in Psychology in the Department of Psychiatry (through August 31, 1968).

Gerald E. Cubelli, M.S., Research Associate in Psychiatry.

Alberto DiMascio, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Neil A. Eddington, Ph.D., Research Associate in Anthropology in the Department of Psychiatry (from September 1, 1968).

Arthur S. Elstein, Ph.D., Research Associate in Psychology in the Department of Psychiatry (through August 31, 1968).

Charles L. Feldman, Sc.D., Research Associate in Biomathematics in the Department of Psychiatry.

Miriam F. Fiedler, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

James L. Fozard, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

David H. Gallant, M.S., Research Associate in Psychology in the Department of Psychiatry.

Bernard Gray, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Robert H. Harrison, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Charles Hersch, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Ralph G. Hirschowitz, M.B., Ch.B., Research Associate in Psychiatry (from September 1, 1968).

David J. Ingle, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Robert L. James, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Philip E. Kubzansky, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

William C. Kvaraceus, Ed.D., Research Associate in Psychology in the Department of Psychiatry.

David N. Lee, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

David Lelos, A.M., Research Associate in Psychology in the Department of Psychiatry.

Leah M. Lowenstein, M.D., Ph.D., Research Associate in Medicine in the Department of Psychiatry (from September 1, 1968).

Joseph Mayer, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Clara W. Mayo, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Murray Melbin, Ph.D., Research Associate in Social Psychology in the Department of Psychiatry.

David P. Michener, M.D., Research Associate in Psychiatry.

Robert C. Misch, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Florence S. Nichols, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Colin M. Parkes, M.D., Research Associate in Psychiatry (through August 31, 1968).

Daniel Pershonok, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Jerold H. Rekosh, Ph.D., Research Associate in Psychology in the Department of Psychiatry (resigned August 31, 1968).

Christopher V. Rowland, Jr., M.D., Research Associate in Psychiatry.

Carol P. Ryser, Ph.D., Research Associate in Sociology in the Department of Psychiatry (from December 1, 1968).

Laura H. Salwen, Ph.D., Research Associate in Psychology in the Department of Psychiatry (through September 30, 1968).

Shera Samaraweera, M.B., B.S., Research Associate in Psychiatry.

Robert D. Schnitzer, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Alan P. Sheldon, M.B., Ch.B., Research Associate in Psychiatry.

Marvin Snider, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Irene P. Stiver, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Nancy C. Waugh, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Aydin Wysocki, Ph.D., Research Associate in Psychology in the Department of Psychiatry.

Morris H. Adler, M.D., Instructor in Psychiatry.

William S. Appleton, M.D., Instructor in Psychiatry.

Nicholas C. Avery, M.D., Instructor in Psychiatry.

Jane E. Bain, M.B., Ch.B., Instructor in Psychiatry.

Mary D. Bain, M.D., Instructor in Psychiatry.

Yasin Balbaky, M.D., Instructor in Psychiatry.

William J. Barnum, Jr., M.D., Instructor in Psychiatry.

Tully Benaron, M.D., Instructor in Psychiatry.
Michael J. Bennett, M.D., Instructor in Psychiatry (from August 1, 1968).
Norman R. Bernstein, M.D., Instructor in Psychiatry.
William F. Beuscher, M.D., Instructor in Psychiatry.
William A. Binstock, M.D., Instructor in Psychiatry.
Carl L. Birk, M.D., Instructor in Psychiatry.
David Blau, M.D., Instructor in Psychiatry.
John R. Blitzer, M.D., Instructor in Psychiatry.
Lenore A. Boling, M.D., Instructor in Psychiatry.
Richard J. Bonier, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Frances J. Bonner, M.D., Instructor in Psychiatry.
Irving D. Bornstein, M.D., Instructor in Psychiatry.
Robert L. Bragg, M.D., Instructor in Psychiatry.
John H. Brennan, M.D., Instructor in Psychiatry (from September 1, 1968).
Richard D. Brodie, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Carl N. Brownsberger, M.D., Instructor in Psychiatry.
Benjamin B. Brussel, M.D., Instructor in Psychiatry.
Harvey M. Budner, M.D., Instructor in Psychiatry.
Richard D. Budson, M.D., Instructor in Psychiatry.
Bernard L. Busfield, Jr., M.D., Instructor in Psychiatry.
Arthur J. Cain, M.D., Instructor in Psychiatry.
Enid F. Caldwell, M.D., Instructor in Psychiatry.
Lloyd M. Caplan, M.D., Instructor in Psychiatry.
William G. Carmichael, M.D., Instructor in Psychiatry.
Franklin Carter, M.D., Instructor in Psychiatry.
Richard M. Chasin, M.D., Instructor in Psychiatry.
Peter T. Choras, M.D., Instructor in Psychiatry.
John G. Clark, Jr., M.D., Instructor in Psychiatry.
Herbert S. Cline, M.D., Instructor in Psychiatry.
Jay L. Collins, M.D., Instructor in Psychiatry.
John C. Coolidge, M.D., Instructor in Psychiatry.
Howard A. Corwin, M.D., Instructor in Psychiatry.

Richard E. Cutler, M.D., Instructor in Psychiatry.
Chester C. d'Autremont, M.D., Instructor in Psychiatry.
Edwin M. Davidson, M.D., Instructor in Psychiatry.
Gerald E. Davidson, M.D., Instructor in Psychiatry.
Max Day, M.D., Instructor in Psychiatry.
Paul R. Dinsmore, M.D., Instructor in Psychiatry.
Robert M. Eisendrath, Jr., M.D., Instructor in Psychiatry.
Ralph P. Engle, Jr., M.D., Instructor in Psychiatry.
Henry C. Everett, M.D., Instructor in Psychiatry.
Albert H. Feingold, M.D., Instructor in Psychiatry.
Donald J. Fern, M.D., Instructor in Psychiatry.
Abraham D. Fineman, M.D., Instructor in Psychiatry.
Irene F. Finstein, M.D., Instructor in Psychiatry.
Thomas Frank, M.D., Instructor in Psychiatry.
Henry J. Friedman, M.D., Instructor in Psychiatry.
Leonard J. Friedman, M.D., Instructor in Psychiatry.
Donald S. Gair, M.D., Instructor in Psychiatry.
Phillip H. Gates, M.D., Instructor in Psychiatry.
George E. Gifford, Jr., M.D., Instructor in Psychiatry.
Benjamin F. Gill, M.D., Instructor in Psychiatry.
Peter E. Goldfine, M.D., Instructor in Psychiatry (from September 1, 1968).
Carmen R. Goldings, M.D., Instructor in Psychiatry.
Herbert J. Goldings, M.D., Instructor in Psychiatry.
Ramon M. Greenberg, M.D., Instructor in Psychiatry.
James A. Haycox, M.D., Instructor in Psychiatry (resigned August 31, 1968).
Francis C. Hersey, M.D., Instructor in Psychiatry.
Helen M. Herzan, M.D., Instructor in Psychiatry.
Marjorie J. Hill, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Axel Hoffer, M.D., Instructor in Psychiatry.
Richmond Holder, M.D., Instructor in Psychiatry.
Stephen D. Howard, M.D., Instructor in Psychiatry (through August 31, 1968).
Carlos L. Hudson, M.D., Instructor in Psychiatry.

Phillip L. Isenberg, M.D., Instructor in Psychiatry.
Peter B. Jenney, M.D., Instructor in Psychiatry.
Brigitte M. Julian, M.D., Instructor in Psychiatry.
Ernest Kahn, M.D., Instructor in Psychiatry.
Irving Kaufman, M.D., Instructor in Psychiatry.
Melvin M. Kayce, M.D., Instructor in Psychiatry.
Robert L. Kelley, M.D., Instructor in Psychiatry.
Edward J. Khantzian, M.D., Instructor in Psychiatry.
Alfred J. R. Koumans, M.D., Instructor in Psychiatry.
Arthur R. Kravitz, M.D., Instructor in Psychiatry.
Edmund N. Kudarauskas, M.D., Instructor in Psychiatry.
Eliot Landsman, M.D., Instructor in Psychiatry.
George B. Lawson, M.D., Instructor in Psychiatry.
Cavin P. Leeman, M.D., Instructor in Psychiatry.
Bernard S. Levy, M.D., Instructor in Psychiatry.
Zenos M. Linnell, M.D., Instructor in Psychiatry.
Don R. Lipsitt, M.D., Instructor in Psychiatry.
Dorothy A. MacNaughton, M.B., Ch.B., Instructor in Psychiatry.
John T. Maltsberger, III, M.D., Instructor in Psychiatry.
Walter Mann, Ph.D., M.D., Instructor in Psychiatry.
Samuel G. McClellan, M.D., Instructor in Psychiatry.
Michael T. McGuire, M.D., Instructor in Psychiatry.
James W. McKearney, Ph.D., Instructor in Psychobiology in the Department of Psychiatry (from December 1, 1968).
William F. McLaughlin, M.D.,C.M., Instructor in Psychiatry.
John F. Merrifield, M.D., Instructor in Psychiatry.
Edward Messner, M.D., Instructor in Psychiatry.
Martin A. Miller, M.D., Instructor in Psychiatry.
Halim Mitry, M.B., Ch.B., Instructor in Psychiatry.
Kathleen M. Mogul, M.D., Instructor in Psychiatry.
Samuel L. Mogul, M.D., Instructor in Psychiatry.
Thomas A. Morris, Jr., M.D., Instructor in Psychiatry.
Barbara C. G. Mueller, M.D., Instructor in Psychiatry.
Egbert H. Mueller, M.D., Instructor in Psychiatry.
Jeremy P. Nahum, M.D., Instructor in Psychiatry.

Nancy P. Nichols, M.D., Instructor in Psychiatry.
Malkah T. Notman, M.D., Instructor in Psychiatry.
Harry S. Olin, M.D., Instructor in Psychiatry.
Vernon D. Patch, M.D., Instructor in Psychiatry.
John K. Pearce, M.D., Instructor in Psychiatry.
Richard R. Peebles, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Jalna A. Perry, M.D., Instructor in Psychiatry.
Maxwell G. Potter, M.D., Instructor in Psychiatry.
John F. Reichard, M.D., Instructor in Psychiatry.
Robert C. Reid, M.D., Instructor in Psychiatry.
Scott A. Reinhardt, Ph.D., Instructor in Psychology in the Department of Psychiatry.
George W. Rever, M.D., Instructor in Psychiatry.
Michael D. Robbins, M.D., Instructor in Psychiatry.
Phelps M. Robinson, M.D., Instructor in Psychiatry.
Gertrude Rogers-Greenblatt, M.D., Instructor in Psychiatry.
Donald H. Russell, M.D., Instructor in Psychiatry.
Joseph C. Sabbath, M.D., C.M., Instructor in Psychiatry.
Donald J. Scherl, M.D., Instructor in Psychiatry.
Lionel A. Schwartz, M.D., Instructor in Psychiatry.
David E. Seil, M.D., Instructor in Psychiatry.
Joae G. Selzer, M.D., Instructor in Psychiatry.
Ralph G. Semon, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Adele Shambaugh, M.D., Instructor in Psychiatry.
Benjamin Shambaugh, M.D., Instructor in Psychiatry.
Julius Silberger, Jr., M.D., Instructor in Psychiatry.
Elinor M. Siner, M.D., Instructor in Psychiatry.
Judith G. Singer, Ph.D., Instructor in Psychology in the Department of Psychiatry.
Richard H. Smith, M.D., Instructor in Psychiatry.
Stewart R. Smith, M.D., Instructor in Psychiatry.
Benson R. Snyder, M.D., Instructor in Psychiatry.
John J. B. Spillane, M.D., Instructor in Psychiatry.
Harold D. Stalvey, M.D., Instructor in Psychiatry.

Malvina Stock, M.D., Instructor in Psychiatry.
Lawrence A. Stone, M.D., Instructor in Psychiatry.
William E. Stone, M.D., Instructor in Psychiatry.
John B. Sturrock, M.B., B.S., Instructor in Psychiatry.
Helen H. Tartakoff, M.D., Instructor in Psychiatry.
Irvin Taube, M.D., Instructor in Psychiatry.
Maurice Vanderpol, M.D., Instructor in Psychiatry.
Mark M. Walter, Jr., M.D., Instructor in Psychiatry.
Stephen L. Washburn, M.D., Instructor in Psychiatry.
Paul L. Watson, M.D., Instructor in Psychiatry.
Robert M. Weiner, M.D., Instructor in Psychiatry.
Lionelle D. Wells, M.D., Instructor in Psychiatry.
Olga S. Wermer, M.D., Instructor in Psychiatry.
Lee H. Willer, M.D., Instructor in Psychiatry.
Harold W. Williams, M.D., Instructor in Psychiatry.
Richard V. Wilson, M.D., Instructor in Psychiatry.
Marian R. Winterbottom, Ph.D., Instructor in Psychology in the Department of Psychiatry (from September 1, 1968).
Howard E. Wulsin, M.D., Instructor in Psychiatry.
Edward L. Zarsky, M.D., Instructor in Psychiatry.
Sheldon D. Zigelbaum, M.D., D.M.D., Instructor in Psychiatry.
Barbara L. Aeschliman, M.D., Assistant in Psychiatry.
Sanford M. Autor, Ph.D., Assistant in Psychology in the Department of Psychiatry.
Sherry Autor, Ph.D., Assistant in Psychology in the Department of Psychiatry.
Ernest W. Bergel, M.D., Assistant in Psychiatry.
Jane M. Berman, M.D., Assistant in Psychiatry.
Ruth B. Beuscher, M.D., Assistant in Psychiatry.
Mignon C. Chasen, M.D., Assistant in Psychiatry.
William M. Crowell, M.D., Assistant in Psychiatry.
Hadassah S. Daniels, M.D., Assistant in Psychiatry.
Dan A. Ditmore, M.D., Assistant in Psychiatry.
Theodore Dreier, M.D., Assistant in Psychiatry.
Hikmet N. Emmannuel, M.B., Ch.B., Assistant in Psychiatry.
Pattison Esmiol, M.D., Assistant in Psychiatry.

Bruce W. Fischberg, M.D., Assistant in Psychiatry.
Alice M. Fleming, M.D., Assistant in Psychiatry.
Francis P. Gallagher, M.D., Assistant in Psychiatry.
Max Geller, M.D., Assistant in Psychiatry.
Jack Green, M.D.,C.M., Assistant in Psychiatry.
Sidney Green, M.D., Assistant in Psychiatry.
Frank Haendel, M.D., Assistant in Psychiatry.
Peter B. Hagopian, M.D., Assistant in Psychiatry.
Wassfy M. Hanna, M.B., Ch.B., Assistant in Psychiatry.
Michael C. Hughes, M.D., Assistant in Psychiatry.
Alexander P. Hyde, M.D., Assistant in Psychiatry.
Pierre Johannet, M.D., Assistant in Psychiatry.
Eda M. Kahana, M.D., Assistant in Psychiatry.
Alvin Kahn, M.D., Assistant in Psychiatry.
George S. Klavens, M.D., Assistant in Psychiatry.
Kathryn B. Kris, M.D., Assistant in Psychiatry.
Dubravko M. Kuftinec, M.D., Assistant in Psychiatry.
Rolf A. Lederer, M.B., Ch.B., Assistant in Psychiatry (resigned November 30, 1968).
Kyu W. Lee, M.D., Assistant in Psychiatry (through February 28, 1969).
Miguel A. Leibovich, M.D., Assistant in Psychiatry.
Herbert O. LeVine, M.D., Assistant in Psychiatry.
Lawrence Litman, M.D., Assistant in Psychiatry.
John B. Livingstone, M.D., Assistant in Psychiatry.
Dennis J. McCrory, M.D., Assistant in Psychiatry.
Robert D. Mehlman, M.D., Assistant in Psychiatry.
Sophie B. Mintz, Ph.D., Assistant in Psychology in the Department of Psychiatry.
Emanuel Mirel, M.D., Assistant in Psychiatry.
Joseph J. Mullen, M.D., Assistant in Psychiatry.
Henry Musnick, M.D., Assistant in Psychiatry.
Carol C. Nadelson, M.D., Assistant in Psychiatry.
Theodore Nadelson, M.D., Assistant in Psychiatry.
Julian J. Newman, M.D., Assistant in Psychiatry.
Armand M. Nicholi, Jr., M.D., Assistant in Psychiatry.

Donald Ottenstein, M.D., Assistant in Psychiatry.
Anita Paine, M.D., Assistant in Psychiatry.
Alan D. Persky, M.D., Assistant in Psychiatry.
Eugene U. Piazza, M.D., Assistant in Psychiatry.
Alan S. Prager, M.D., Assistant in Psychiatry.
Donald Pugatch, M.D., Assistant in Psychiatry.
Jack O. Rice, M.D., Assistant in Psychiatry.
Alexander K. Rolde, M.D., C.M., Assistant in Psychiatry (from September 1, 1968).
Edward J. Rolde, M.D., Assistant in Psychiatry.
Nancy Rollins, M.D., Assistant in Psychiatry.
Eliyahu Rosenheim, Ph.D., Assistant in Psychology in the Department of Psychiatry.
Jane A. Russell, M.D., Assistant in Psychiatry.
Julian H. Sacks, M.D., Assistant in Psychiatry.
Harriet R. Schlesinger, M.D., Assistant in Psychiatry.
Paul Schneller, M.D., Assistant in Psychiatry.
Philip W. Shambaugh, M.D., Assistant in Psychiatry.
William Sharpe, Jr., M.D., Assistant in Psychiatry.
Theodore C. Sheftel, M.D., Assistant in Psychiatry (resigned August 31, 1968).
William R. Shelton, M.D., Assistant in Psychiatry.
Nathan T. Sidley, M.D., Assistant in Psychiatry.
Danuta M. Stachiewicz, D.P.M., Assistant in Psychiatry.
Sumner Stone, M.D., Assistant in Psychiatry.
Ludwik S. Szymanski, M.D., Assistant in Psychiatry.
Consuelo K. Tagiuri, M.D., Assistant in Psychiatry.
William D. Temby, M.D., Assistant in Psychiatry.
Robert H. Trivus, M.D., Ph.D., Assistant in Psychiatry.
Helen D. Wallach, M.D., Assistant in Psychiatry.
John L. Weil, M.D., Assistant in Psychiatry.
Ruth S. Weiss, M.D., Assistant in Psychiatry.
Frederick E. Whiskin, M.D., Assistant in Psychiatry.
Anna K. Wolff, M.D., Assistant in Psychiatry.
Harold M. Wolman, M.D., Assistant in Psychiatry.
Joan J. Zilbach, M.D., Assistant in Psychiatry.

Robert S. Aaron, M.D., Research Fellow in Psychiatry.
Terry R. Anders, Ph.D., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
William H. Anderson, M.D., Research Fellow in Psychiatry.
Paul H. Arkema, M.D., Research Fellow in Psychiatry.
George Bach-Y-Rita, M.D., Research Fellow in Psychiatry.
John H. Blackman, M.D., Research Fellow in Psychiatry.
Eric A. Baum, M.D., Research Fellow in Psychiatry.
Edward Q. Bayard, M.D., Research Fellow in Psychiatry.
Lilia E. Bordone, M.D., Research Fellow in Psychiatry.
Leslie Brooks, M.D., Research Fellow in Psychiatry.
Gordon D. Carr, Ph.D., Research Fellow in Psychology in the Department of Psychiatry.
Charles W. Casella, M.D., Research Fellow in Psychiatry.
Bertram J. Cohler, Ph.D., Research Fellow in Psychology in the Department of Psychiatry.
Edward A. Conboy, M.D., Research Fellow in Psychiatry.
Nicholas S. Craven, M.D., Research Fellow in Psychiatry.
Franklin C. Curren, M.D., Research Fellow in Psychiatry.
John S. Deverter, M.D., Research Fellow in Psychiatry.
William B. Donovan, M.D., Research Fellow in Psychiatry.
Miriam B. Dushman, M.D., Research Fellow in Psychiatry.
Lloyd O. Eckhardt, M.D., Research Fellow in Psychiatry.
Amir M. Farhadi, M.D., Research Fellow in Psychiatry (from September 15, 1968).
Ellsworth A. Fersch, Jr., L.L.B., A.M., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
George Gardos, M.B., B.S., Research Fellow in Psychiatry.
Alicia Gavalya, M.D., Research Fellow in Psychiatry.
Richard N. Gavalya, M.D., Research Fellow in Psychiatry.
David T. Gavan, M.D., Research Fellow in Psychiatry.
Robert Gertler, M.B., B.S., Research Fellow in Psychiatry.
Kenneth F. Green, Ph.D., Research Fellow in Psychology in the Department of Psychiatry.
Graeme Hanson, M.D., Research Fellow in Psychiatry.

Lawrence M. Hartmann, M.D., Research Fellow in Psychiatry.
Joseph H. Herzberg, M.D., Research Fellow in Psychiatry.
Jay H. Holtzman, M.D., Research Fellow in Psychiatry.
John S. Howland, M.D., Research Fellow in Psychiatry.
Judith N. Huizenga, M.D., Research Fellow in Psychiatry.
David Hutchison, M.D., Research Fellow in Psychiatry.
Richard K. Jennings, M.D., Research Fellow in Psychiatry.
Lee C. Johnston, A.M., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
Margaret A. H. Jolly, M.D., Research Fellow in Psychiatry.
Stuart M. Kameny, M.D., Research Fellow in Psychiatry.
Hugh S. Leff, Ph.D., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
Victoria M. Levi, M.D., Research Fellow in Psychiatry.
Matthew A. Levine, M.D., Research Fellow in Psychiatry.
John R. Lion, M.D., Research Fellow in Psychiatry.
Joseph F. Lipinski, M.D., Research Fellow in Psychiatry.
Peter C. Ludwig, M.D., Research Fellow in Psychiatry.
Lee B. Macht, M.D., Research Fellow in Psychiatry.
Herman L. March, M.D., Research Fellow in Psychiatry.
Robert C. Marvit, M.D., Research Fellow in Psychiatry.
Robert W. McCarley, M.D., Research Fellow in Psychiatry.
Paul W. McCarthy, M.B., Ch.B., Research Fellow in Psychiatry (through August 31, 1968).
Brenda K. McGowan, Ph.D., Research Fellow in Psychology in the Department of Psychiatry (through September 30, 1968).
John M. McMillin, M.D., Research Fellow in Psychiatry.
Katsumi Meguro, M.D., Research Fellow in Psychiatry (through September 17, 1968).
Ronald V. Norris, M.D., Research Fellow in Psychiatry.
Karen L. Pajari, M.D., Research Fellow in Psychiatry.
P. David Pavy, III, Ph.D., Research Fellow in Anthropology in the Department of Psychiatry (through August 31, 1968).
Michael S. Perlman, M.D., Research Fellow in Psychiatry.
John D. Pierson, M.D., Research Fellow in Psychiatry.

David L. Raphling, M.D., Research Fellow in Psychiatry.
Peter P. Reilly, M.D., Research Fellow in Psychiatry.
Jose T. Reyes, M.D., Research Fellow in Psychiatry.
Dorothy I. Riddle, A.B., Research Fellow in Psychology in the Department of Psychiatry (through August 31, 1968).
Ann S. Roberts, A.M., Research Fellow in Psychology in the Department of Psychiatry (through August 31, 1968).
John A. Robertson, L.L.B., Research Fellow in Law in the Department of Psychiatry.
Ethan S. Rofman, M.D., Research Fellow in Psychiatry.
Ronal G. Rosso, M.D., Research Fellow in Psychiatry.
Gerald H. Rothschild, A.M., Research Fellow in Psychology in the Department of Psychiatry.
Paul L. Russell, M.D., Research Fellow in Psychiatry.
Ann I. M. Sandor, A.M., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
Hideo Sasaki, M.D., Ph.D., Research Fellow in Psychiatry.
Bruno Scherz, M.D., Research Fellow in Psychiatry.
Charles A. Schwartz, M.D., Research Fellow in Psychiatry.
James A. Seddon, Jr., M.D., Research Fellow in Psychiatry.
Richard Sens, M.D., Research Fellow in Psychiatry.
Kenneth J. Shapiro, A.B., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
Robert W. Shapiro, M.D., Research Fellow in Psychiatry.
Susan R. Shnidman, Ph.D., Research Fellow in Psychology in the Department of Psychiatry (through December 31, 1968).
Michael A. Sperber, M.D., Research Fellow in Psychiatry.
Ronald M. Stuart, M.D., Research Fellow in Psychiatry.
Philip Sullivan, M.D., Research Fellow in Psychiatry.
Ernesto Vasquez-Amory, M.D., Research Fellow in Psychiatry.
Channing H. Washburn, M.D., Research Fellow in Psychiatry.
Howard J. Weisman, M.D., Research Fellow in Psychiatry.
Sharon C. Wilsnack, A.M., Research Fellow in Psychology in the Department of Psychiatry (from September 1, 1968).
Martin Yellen, M.D., Research Fellow in Psychiatry.

Teruro Yonezawa, M.D., Research Fellow in Psychiatry (from August 1, 1968).
Paul W. Yost, M.D., Research Fellow in Psychiatry.
Steven L. Ablow, M.D., Teaching Fellow in Psychiatry.
Steve G. Agular, M.D., Teaching Fellow in Psychiatry.
Michael S. Annunziata, M.D., Teaching Fellow in Psychiatry.
Irwin Avery, M.D., Teaching Fellow in Psychiatry.
James C. Beck, M.D., Teaching Fellow in Psychiatry.
Myron L. Belfer, M.D., Teaching Fellow in Psychiatry.
Francis W. Bernet, M.D., Teaching Fellow in Psychiatry.
Stephen B. Bernstein, M.D., Teaching Fellow in Psychiatry.
Leo J. Borrell, M.D., Teaching Fellow in Psychiatry.
Brian B. Bouton, M.D., Teaching Fellow in Psychiatry.
Edwin H. Cassem, M.D., Teaching Fellow in Psychiatry.
Maurice C. Cion, M.D., Teaching Fellow in Psychiatry.
Carlos E. Climent, M.D., Teaching Fellow in Psychiatry.
Donald J. Cohen, M.D., Teaching Fellow in Psychiatry.
Alan G. Gorman, M.D., Teaching Fellow in Psychiatry.
John M. Dorman, M.D., Teaching Fellow in Psychiatry.
Brian B. Doyle, M.D., C.M., Teaching Fellow in Psychiatry.
Michael H. Ebert, M.D., Teaching Fellow in Psychiatry.
Joseph L. Finesinger, M.D., Teaching Fellow in Psychiatry.
Jay S. Flocks, M.D., Teaching Fellow in Psychiatry.
John L. Frank, M.D., Teaching Fellow in Psychiatry.
Bernard L. Frankel, M.D., Teaching Fellow in Psychiatry.
Jerome S. Gans, M.D., Teaching Fellow in Psychiatry.
Christopher C. Gates, M.D., Teaching Fellow in Psychiatry.
Gary S. Gelber, M.D., Teaching Fellow in Psychiatry.
Abraham Genack, M.D., Teaching Fellow in Psychiatry.
Elliot S. Gershon, M.D., Teaching Fellow in Psychiatry.
James F. Gilligan, M.D., Teaching Fellow in Psychiatry.
Richard P. Goldwater, M.D., Teaching Fellow in Psychiatry.
Sheldon Golub, M.D., Teaching Fellow in Psychiatry.
Kenneth P. Gorelick, M.D., Teaching Fellow in Psychiatry.
David D. Griffith, M.D., Teaching Fellow in Psychiatry.
Barbara A. Groome, M.D., Teaching Fellow in Psychiatry.

John G. Gunderson, M.D., Teaching Fellow in Psychiatry.
Bennett S. Gurian, M.D., Teaching Fellow in Psychiatry.
Thomas G. Guthiel, M.D., Teaching Fellow in Psychiatry.
Jonathan A. Guttmacher, M.D., Teaching Fellow in Psychiatry.
George E. Hamilton, M.D., Teaching Fellow in Psychiatry.
James S. Harburger, M.D., Teaching Fellow in Psychiatry.
Ned R. Harley, M.D., Teaching Fellow in Psychiatry.
Stuart T. Hauser, M.D., Teaching Fellow in Psychiatry.
Robert B. Hepps, M.D., Teaching Fellow in Psychiatry.
Ligaya M. Ilagan, M.D., Teaching Fellow in Psychiatry.
Carolyn Ise, M.D., Teaching Fellow in Psychiatry.
Yukio Ishizuka, M.D., Teaching Fellow in Psychiatry.
Leonard S. Jacobs, M.D., Teaching Fellow in Psychiatry.
Steven L. Jaffe, M.D., Teaching Fellow in Psychiatry.
Burt P. Johnson, M.D., Teaching Fellow in Psychiatry.
Bernard A. Katz, M.D., Teaching Fellow in Psychiatry.
Martin J. Kelly, Jr., M.D., Teaching Fellow in Psychiatry.
Robert F. Kenerson, M.D., Teaching Fellow in Psychiatry.
Wang K. Kim, M.D., Teaching Fellow in Psychiatry.
Romulo A. Lander, M.D., Teaching Fellow in Psychiatry.
Hester T. Lewis, M.D., Teaching Fellow in Psychiatry.
John M. Ludden, M.D., Teaching Fellow in Psychiatry.
Hugh J. Lurie, M.D., Teaching Fellow in Psychiatry.
Alan N. Marks, M.D., Teaching Fellow in Psychiatry.
Thomas H. McGlashan, M.D., Teaching Fellow in Psychiatry.
Gerald J. McKenna, M.D., Teaching Fellow in Psychiatry.
William W. Meissner, Ph.L., Teaching Fellow in Psychiatry.
Martin Merowitz, M.D., Teaching Fellow in Psychiatry.
Charles R. Middleton, M.D., Teaching Fellow in Psychiatry.
Halbert B. Miller, M.D., Teaching Fellow in Psychiatry.
John M. Mols, M.D., Teaching Fellow in Psychiatry.
Jason E. Mondale, M.D., Teaching Fellow in Psychiatry.
Delia M. Montes-Gallo, M.D., Teaching Fellow in Psychiatry.
Vasiliki Moskos, M.D., Teaching Fellow in Psychiatry.

Michael D. Murphy, M.B., Ch.B., Teaching Fellow in Psychiatry.
Jeffrey D. Nason, M.D., Teaching Fellow in Psychiatry.
Michael H. Nelson, L.R.C.P., Teaching Fellow in Psychiatry.
Scott H. Nelson, M.D., Teaching Fellow in Psychiatry.
Thomas J. Paolino, M.D., Teaching Fellow in Psychiatry.
Jay M. Pomerantz, M.D., Teaching Fellow in Psychiatry.
Barry D. Proner, M.D., Teaching Fellow in Psychiatry.
Susan M. Rako, M.D., Teaching Fellow in Psychiatry.
Kent Ravenscroft, Jr., M.D., Teaching Fellow in Psychiatry.
Anthony E. Raynes, L.R.C.P., Teaching Fellow in Psychiatry.
Arthur E. Reider, M.D., Teaching Fellow in Psychiatry.
Ira Reiskin, M.D., Teaching Fellow in Psychiatry.
Henry E. Robinson, M.D., Teaching Fellow in Psychiatry.
James S. Robison, M.D., Teaching Fellow in Psychiatry.
Jerome H. Rogoff, M.D., Teaching Fellow in Psychiatry.
Sheldon Roth, M.D., Teaching Fellow in Psychiatry.
Lawrence Ruzumna, M.D., Teaching Fellow in Psychiatry (from September 1, 1968).
Jerome I. Sashin, M.D., Teaching Fellow in Psychiatry.
David E. Scharff, M.D., Teaching Fellow in Psychiatry.
Bernardo S. Scheimberg, M.D., Teaching Fellow in Psychiatry.
Henry E. Schniewind, M.D., Teaching Fellow in Psychiatry.
John W. Schott, M.D., Teaching Fellow in Psychiatry.
Robert H. Sharpley, M.D., Teaching Fellow in Psychiatry.
Daniel Shaw, M.D., Teaching Fellow in Psychiatry.
Michael R. Sherwood, M.D., Teaching Fellow in Psychiatry.
Franklin S. Simon, M.D., Teaching Fellow in Psychiatry.
Arthur H. Stein, M.D., Teaching Fellow in Psychiatry.
Melvin J. Stern, M.D., Teaching Fellow in Psychiatry.
Mark L. Stiglitz, M.D., Teaching Fellow in Psychiatry.
Alfredo T. Suescum, M.D., Teaching Fellow in Psychiatry.
Juliana O. Sustento, M.D., Teaching Fellow in Psychiatry.
Paul Torop, M.D., Teaching Fellow in Psychiatry.
Michael S. Weiner, M.D., Teaching Fellow in Psychiatry.
Robert Weinstock, M.D., Teaching Fellow in Psychiatry.

Howard A. Wishnie, M.D., Teaching Fellow in Psychiatry.
Peter F. Wohlauer, M.D., Teaching Fellow in Psychiatry.
Judith R. Wolfberg, M.D., Teaching Fellow in Psychiatry.
David J. Wood, M.D., Teaching Fellow in Psychiatry.
Takashi Yamaguchi, M.D., Teaching Fellow in Psychiatry.
Bernard S. Yudowitz, M.D., Teaching Fellow in Psychiatry.

Required Courses

Psychiatry. *First Year* (*new program*). — The course in the behavioral and social sciences in the new curriculum consists of eleven one and a half hour morning seminar sessions and eleven afternoon field exercises. Each student selects one seminar series from among the following: Sociological Perspectives on Health Illness and Disease, Social Psychiatry, the Organization of the Medical Profession, Child Development, Seminar on Medical Sociology, Economic Criteria and Public Policy in Health and Medical Care, the Seven Ages of Man, the Role of the Physician in the Hospital Setting, the Basic Concepts of Psychology, Family Medicine and Psychobiology. The field exercises are designed to bring students into direct contact with individual patients and to enable them to develop an appreciation of the social, economic and psychological problems created in the patient, his family and the community by illness. Emphasis is placed on an immediate relationship between student and patient under close tutorial supervision with an opportunity for the student to play a meaningful role in the care provided. The settings are clinical but the focus is on such issues as the patient-physician relationship, the meaning of the illness to the patient, the role of the physician in society, and the system of delivering care. The Departments of Medicine, Psychiatry, Surgery, and Pediatrics participate.

Psychiatry. *Second Year.* — The second year consists of nineteen lectures in abnormal growth and development to develop further concepts of psychological functioning. Emphasis shifts to the nature and genesis of abnormal psychological mechanisms manifested in symptoms and behavioral disturbances. Nine additional hours are given to introduce methods of history taking and examination of patients designed to understand more fully socio-emotional factors in illness. The course is designed to serve as a preparation for the Introduction to the Clinic and the Principal Clinical Year.

Psychiatry. *Introduction to the Clinic.* — Psychiatric interviewing and case-taking are taught on the wards of the Beth Israel Hospital, Boston City Hospital, Massachusetts General Hospital, and Peter Bent Brigham Hospital by their psychiatric staffs. Lecture-demonstrations supplement this preparation for the subsequent clerkship.

Psychiatry. *Principal Clinical Year.* — Each student serves as a clinical clerk for three weeks at the Massachusetts Mental Health Center, the Massachusetts General Hospital, or the McLean Hospital in conjunction with the Beth Israel Hospital. Work is with inpatients and outpatients, under supervision, and includes both short term and longer term contacts. The psychiatric problems of children and adolescents are discussed with staff members of the M.M.H.C., M.G.H., B.I.H., or C.H.M.C. During the medical, surgical, and pediatric clerkships at the B.I.H., B.C.H., M.G.H., P.B.B.H., and C.H.M.C., additional patients are studied under supervision one period each week. Emphasis is on the psychiatric problems of medical practice.

FIRST YEAR — HOURS

Behavioral and Social Sciences. Seminars and field work. Dr. Eisenberg and Associates. 61

SECOND YEAR

Psychiatry. Lectures and section teaching. Dr. Nemiah coordinator for course in Abnormal Growth and Development. In addition to nineteen lectures, each student attends three three-hour exercises as part of the course in physical diagnosis. 28

INTRODUCTION TO THE CLINIC

Psychiatry. Psychiatry services in the B.I.H., B.C.H., M.G.H., and P.B.B.H. Number of hours varies.

PRINCIPAL CLINICAL YEAR

Psychiatry. Clinical Clerkship. Drs. Ewalt, Eisenberg, Havens, Nemiah, Stanton, Gardner, Fox, P. Solomon, and Associates at the M.M.H.C., M.G.H., B.I.H., McL.H., C.H.M.C., P.B.B.H., B.C.H. In addition to the psychiatric clerkship students spend one period each week on psychiatric problems during clerkships in medicine, surgery, and pediatrics. 120

*Fourth Year Elective Courses**

BLOCK COURSES

501M. Adult Psychiatry. Dr. Nemiah and Associates.
502M. Child Psychiatry. Dr. Onesti and Associates.
503M. Medical Psychotherapy. Dr. Altman and Associates.
505M. Adult Psychiatry. Dr. P. Solomon and Associates.
506M. Psychiatric Emergencies. Dr. P. Solomon and Associates.
507M. Psychiatric Problems in Alcoholism. Dr. P. Solomon and Associates.
508M. Consultation Psychiatry. Dr. P. Solomon and Associates.
509M. Child Psychiatry. Dr. G. E. Gardner and Associates.
510M. Child Psychiatry in Pediatric Practice. Dr. G. E. Gardner and Associates.
511M. Field Placements in Community Psychiatry. Dr. R. E. Cohen and Associates.
512M. General Hospital Inpatient and Outpatient Psychiatry. Dr. Lazare.
514M. Child Psychiatry. Dr. Lamont.
518M. Adult Psychiatry. Drs. Weisman, Chafetz, Lazare, and H. J. Friedman.
520M. Acute Psychiatric Service. Dr. Chafetz.
521M. Alcohol Clinic. Dr. Chafetz.
522M. Adult Psychiatry. Dr. Havens and Associates.
523M. Child Psychiatry. Dr. Rochlin and Associates.
527M. Inpatient Child Psychiatry. Dr. G. E. Gardner and Associates.
528M. Psychotherapy in Medical Practice. Dr. Dwyer and Associates.

LONGITUDINAL COURSES

701. Use of Psychological Tests in a General Hospital. Drs. Misch and Brodie.
707. Group Dynamics. Dr. Christ and Associates.
709. General Psychopathology. Dr A. A. Stone and Associates.
710M. Applied Geriatric Psychiatry. Dr. Berezin and Associates.
711. Behavioral Science Research. Dr. C. K. Connors.
712. Short-Term Outpatient Psychotherapy. Dr. Sifneos.
713M. Community Mental Health Pre-school Check-up Program. Dr. Mayo.
714. Techniques of Preventive Intervention. Dr. Herzan.
715. Dynamics of Group Processes in Medical Practice. Dr. Semrad and Associates.
716M. Basic Principles of Psychotherapy. Dr. Semrad.
717. Problems of Psychiatry. Dr. Havens.
718. Basic Concepts of Dynamic Psychiatry. Dr. E. R. Zetzel.
721. Research in Psychophysiology. Drs. Shapiro, Crider, and Mr. Tursky.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

722M. Outpatient Therapy. Drs. Stanton, Christ, A. A. Stone, and Associates.
723. Practice of Medical Psychology. Drs. Lipsitt, Payne, and Associates.
725. Medicine in Society. Dr. Zinberg.
727. Consultative and Psychotherapeutic Approaches in Child Psychiatry. Dr. T. Frank and Associates.
728. Introduction to Community Psychiatry. Dr. R. E. Cohen and Associates.
730. Outpatient Clinical Clerkship. Drs. Christ, Caldwell, Mueller, Shein, and Associates.
731. Clinical Clerkship. Hospital Treatment of the Major Psychiatric Disorders. Drs. Stanton, A. A. Stone, Shein, H. W. Williams, Jr., and Associates.
733. Child Psychiatry. Dr. Onesti and Associates.
734. Drug Abuse and Control. Dr. Zinberg. Not offered in 1968–1969.
735. Understanding the Patient in the Contex of Medical Practice. Drs. Funkhouser and Reich. (Same course as Medicine 722.)
736. Group Therapy Seminar. Dr. E. M. Daniels.
737. Biological Aspects of Psychiatry. Dr. Kety.
738. Child Psychiatry and Psychological Problems in Pediatrics. Dr. Lamont.
739. Clinic on Medical Hypnosis. Dr. Hackett.
740. Principles and Practice of Consultation in Psychiatry. Drs. Dwyer, Hackett, and Weisman.
741. Community Mental Health Program, Mental Health Education. Drs. Bragg and W. J. Freeman.
742. The Organization of Psychiatric Hospital Care. Dr. de Marneffe and Associates.
743. The Nature of Schizophrenia in the Hospital and the Community. Dr. Eldred and Associates.
744. Psychiatry and Law. Dr. A. A. Stone and Professor Dershowitz.
745. Clinical Psychopharmacology. Drs. Shein, Jenney, and Associates.
746. Preventive Community Psychiatry in a Public School System. Drs. Vanderpool and Suescum.
747M. Clinical Evaluation of Personality. Drs. Stanton, E. M. Daniels, and Associates.

Department of Radiology

Herbert L. Abrams, M.D., A.M. (hon.), Philip H. Cook Professor of Radiology, and Head of the Department.

Henry I. Kohn, Ph.D., M.D., David Wesley Gaiser Professor of Radiation Biology.

Edward B. D. Neuhauser, M.D., Clinical Professor of Radiology.

Laurence L. Robbins, M.D., Clinical Professor of Radiology.

Pekka Soila, M.D., Visiting Professor of Radiology (from November 1, 1968 through February 28, 1969).

Herman D. Suit, M.D., D.Phil., Alvan T. and Viola D. Fuller-American Cancer Society Visiting Professor of Radiology (from February 1, 1969 through May 31, 1969).

S. James Adelstein, M.D., Associate Professor of Radiology at the Peter Bent Brigham Hospital.

Samuel Hellman, M.D., A.M. (hon.), Associate Professor of Radiology at the Conjoint Radiation Therapy Center.

Florencio A. Hipona, M.D., Associate Clinical Professor of Radiology.

Milford D. Schulz, M.D., Associate Clinical Professor of Radiology.

Morris Simon, M.B., Ch.B., Associate Clinical Professor of Radiology.

Edward W. Webster, Ph.D., Associate Clinical Professor of Radiological Physics in the Department of Radiology.

Martin H. Wittenborg, M.D., Associate Clinical Professor of Radiology.

James A. Belli, M.D., Assistant Professor of Radiology at the Conjoint Radiation Therapy Center.

Jack R. Dreyfuss, M.D., Assistant Clinical Professor of Radiology.

John E. Gary, M.D., Assistant Clinical Professor of Radiology.

Norman K. Hollenberg, M.D., Ph.D., Assistant Professor of Radiology.

Marjorie J. Lemay, M.D., Assistant Clinical Professor of Radiology.

Martin B. Levene, M.D., Assistant Clinical Professor of Radiology.

Eric N. C. Milne, M.B., Ch.B., Assistant Professor of Radiology.

Majic S. Potsaid, M.D., Assistant Clinical Professor of Radiology.

Chiu-Chen Wang, M.D., Assistant Clinical Professor of Radiology.

Stanley M. Wyman, M.D., Assistant Clinical Professor of Radiology.

Lloyd E. Hawes, M.D., Lecturer on Radiology, and Honorary Curator of the Historical Collection in Radiology in the Francis A. Countway Library of Medicine.

Lucy F. Squire, M.D., Lecturer on Radiology.

George B. C. Harris, M.D., Clinical Associate in Radiology.

Francis A. Herzan, M.D., Clinical Associate in Radiology.

Norman Joffe, M.B., Ch.B., Clinical Associate in Radiology.

Ann M. Lewicki, M.D., Associate in Radiology.

Paul F. J. New, M.B., B.S., Clinical Associate in Radiology.

Henry P. Pendergrass, M.D., Clinical Associate in Radiology.

Keith R. Rabinov, M.D., Clinical Associate in Radiology.

Melvin Tefft, M.D., Clinical Associate in Radiology.

Alfred L. Weber, M.D., Clinical Associate in Radiology.

Maurice A. Lerner, M.B., Ch.B., Lecturer on Radiology.

Olle Olsson, M.D., Visiting Lecturer on Radiology (from October 15, 1968 through November 2, 1968).

William B. Seaman, M.D., Visiting Lecturer on Radiology (from October 1, 1968 through October 12, 1968).

Jerome H. Shapiro, M.D., Lecturer on Radiology.

Michael A. Davis, ScD., Research Associate in Radiology (from September 1, 1968).

John C. Kohl, Jr., Ph.D., Research Associate in Radiology (from August 1, 1968).

Douglass F. Adams, M.D., Instructor in Radiology.

Richard I. Basch, M.D., Instructor in Radiology.

Boris P. Bushueff, M.D., Instructor in Radiology.

John T. Chaffey, M.D., Instructor in Radiology.

Robert E. Dinsmore, M.D., Instructor in Radiology.

Sidney A. Elk, M.B., Ch.B., Instructor in Radiology.
Ernest J. Ferris, M.D., Instructor in Radiology.
Nathan T. Griscom, M.D., Instructor in Radiology.
Douglas H. Howry, M.D., Instructor in Radiology.
Murray L. Janower, M.D., Instructor in Radiology.
Mirle A. Kellett, M.D., Instructor in Radiology.
Alexander S. Macmillan, Jr., M.D., Instructor in Radiology.
Aldolfo Maldonado, M.D., Instructor in Radiology.
James M. McNeill, M.D., Instructor in Radiology.
Kiyokazu J. Momose, M.D., C.M., Instructor in Radiology.
Gustovo S. Montana, M.D., Instructor in Radiology.
Robert A. Nebesar, M.D., Instructor in Radiology.
John F. O'Connor, M.D., Instructor in Radiology.
Santiago Paredes, M.D., Instructor in Radiology.
Lawrence Perchik, M.D., Instructor in Radiology.
James J. Pollard, M.D., Instructor in Radiology.
Alan J. Porter, M.B., B.S., Instructor in Radiology.
Norman L. Sadowsky, M.D., Instructor in Radiology.
Stefan C. Schatzki, M.D., Instructor in Radiology.
Hubert S. Sear, M.D., Instructor in Radiology.
John L. Sosman, M.D., Instructor in Radiology.
Jorgen Stovring, M.D., Instructor in Radiology.
Roy D. Strand, M.D., Instructor in Radiology.
Frederick S. Tomchik, M.D., Instructor in Radiology.
Erich Voegeli, M.D., Instructor in Radiology.
Robert H. Wilkinson, M.D., Instructor in Radiology.
Wladimir Zezulin, M.D., Instructor in Radiology.
Franklin L. Angell, M.D., Assistant in Radiology (from October 1, 1968).
Melvin E. Clouse, M.D., Assistant in Radiology.
Joseph T. Ferrucci, M.D., Assistant in Radiology.
Donald J. Fleischli, M.D., Assistant in Radiology.
Deborah M. Forrester, M.D., Assistant in Radiology.
Julian I. Gilliam, M.D., Assistant in Radiology.
Derek J. Goodman, M.B., B.S., Assistant in Radiology.
Herbert F. Gramm, M.D., Assistant in Radiology.

Daniel Kaplan, M.D., Assistant in Radiology.
Lawrence J. Kleine, D.V.M., Assistant in Radiology.
John W. Kraft, M.D., Assistant in Radiology.
Earl D. Nordberg, M.D., Assistant in Radiology.
William J. Otto, Jr., M.D., Assistant in Radiology (from August 1, 1968).
Richard C. Pfister, M.D., Assistant in Radiology.
Thomas E. Shea, M.D., Assistant in Radiology.
John A. Twaddle, M.D., Assistant in Radiology.
Milton A. Weiner, M.D., Assistant in Radiology.
Richard B. Wolk, M.D., Assistant in Radiology (resigned December 31, 1968).
George F. Zinninger, M.D., Assistant in Radiology.
Roland L. Breton, M.D., Research Fellow in Radiology (from April 1, 1969).
William J. H. Caldicott, M.B., B.S., Research Fellow in Radiology.
Klaus R. Dehlinger, M.D., Research Fellow in Radiology (from September 15, 1968 through April 15, 1969).
Harry A. Grant, III, M.D., Research Fellow in Radiology.
Kyoichi Hiramatsu, M.D., Research Fellow in Radiology.
Peter R. Clapp, M.D., Teaching Fellow in Radiology.
Michael Grunebaum, M.D., Teaching Fellow in Radiology.
Petronio T. Lerona, M.D., Teaching Fellow in Radiology.
Maurice S. F. McLachlan, M.B., Ch.B., Teaching Fellow in Radiology

Required Courses

Radiology. *First Year.* — Radiological instruction during the first year comprises a series of presentations during the course in Anatomy, designed to introduce and apply the X-ray method as a means of studying gross internal anatomy in health and disease. The practical application of these methods is extended in the Saturday clinics.

Radiology. *Second Year.* — During the second semester of the second year, small group exercises and demonstrations are conducted in conjunction with the program of correlative teaching, with em-

phasis on the systematic approach to X-ray interpretation and the correlation of abnormal findings with gross pathology and pathophysiology.

RADIOLOGY. *Introduction to the Clinic* and *Principal Clinical Year.* —Instruction is offered at the teaching hospitals through a series of lectures, clinics, and seminars.

Fourth Year Elective Courses *

BLOCK COURSES

501M. General Radiology. Dr. M. SIMON and ASSOCIATES.
502M. General Radiology. Dr. M. SIMON and ASSOCIATES.
503M. General Pediatric Roentgen Diagnosis. Dr. NEUHAUSER and ASSOCIATES.
504M. Pediatric Radiotherapy. Dr. TEFFT.
505M. General Radiology. Dr. L. L. ROBBINS and ASSOCIATES.
506M. Radiation Therapy. Dr. SCHULZ and ASSOCIATES.
507M. General Radiology with Emphasis on Diagnostic Radiology. Dr. GARY and ASSOCIATES.
508M. Diagnostic Radiology. Dr. ABRAMS and ASSOCIATES.
509M. Diagnostic Radiology. Dr. ABRAMS and ASSOCIATES.
510M. Radiation Therapy and Oncology. Dr. S. HELLMAN and ASSOCIATES.
511M. Nuclear Medicine. Dr. ADELSTEIN.
512M. General Radiology. Dr. BUSHUEFF and ASSOCIATES.
513M. Radiology. Drs. SHAPIRO, HIPONA, and ASSOCIATES.

LONGITUDINAL COURSES

701. Radiobiology. Drs. KOHN and ADELSTEIN.
702. Diagnostic Roentgenology. Dr. L. L. ROBBINS.
703. Neuroradiology. Dr. HIPONA and ASSOCIATES.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Department of Surgery

Oliver Cope, M.D., Dr. (hon.), Professor of Surgery, and Acting Head of the Department of the Massachusetts General Hospital.

William V. McDermott, Jr., M.D., Professor of Surgery, and Head of the Department at the Boston City Hospital.

Francis D. Moore, M.D., S.D. (hon.), Moseley Professor of Surgery, and Head of the Department at the Peter Bent Brigham Hospital.

William Silen, M.D., A.M. (hon.), Professor of Surgery at the Beth Israel Hospital, and Head of the Department at the Beth Israel Hospital.

Paul S. Russell, M.D., A.M. (hon.), John Homans Professor of Surgery, and Secretary to the Departments of Surgery.

W. Gerald Austen, M.D., Professor of Surgery.

Marshall K. Bartlett, M.D., Clinical Professor of Surgery.

Henry K. Beecher, A.M., M.D., M.D. (hon.), Dr. (hon.), Henry Isaiah Dorr Professor of Research and Teaching in Anaesthetics and Anaesthesia.

George H. A. Clowes, Jr., M.D., Clinical Professor of Surgery.

M. Judah Folkman, M.D., Julia Dyckman Andrus Professor of Pediatric Surgery (on leave from January 1, 1969).

Robert E. Gross, M.D., D.Sc. (hon.), M.D. (hon.), William E. Ladd Professor of Child Surgery.

Dwight E. Harken, M.D., D.Sc. (hon.), Clinical Professor of Surgery.

J. Hartwell Harrison, M.D., A.M. (hon.), Elliott Carr Cutler Professor of Surgery.

John W. Kirklin, M.D., Visiting Professor of Surgery (from December 1, 1968 through December 8, 1968).

Wyland F. Leadbetter, M.D., Clinical Professor of Surgery.

Donald D. Matson, M.D., Franc D. Ingraham Professor of Neurosurgery.

K. Alvin Merendino, M.D., Ph.D., Visiting Professor of Surgery (from September 16, 1968 through September 21, 1968).

Thomas B. Quigley, M.D., Clinical Professor of Surgery.

William H. Sweet, M.D., D.Sc., Professor of Surgery at the Massachusetts General Hospital.

Leroy D. Vandam, M.D., A.M. (hon.), Professor of Anaesthesia at the Peter Bent Brigham Hospital.

Carl W. Walter, M.D., Clinical Professor of Surgery.

Richard Warren, M.D., Clinical Professor of Surgery.

Claude E. Welch, M.D., Clinical Professor of Surgery.

William F. Bernard, M.D., Associate Clinical Professor of Surgery.

Thomas W. Botsford, M.D., Associate Clinical Professor of Surgery.

John R. Brooks, M.D., Associate Clinical Professor of Surgery.

Bradford Cannon, M.D., Associate Clinical Professor of Surgery.

Chilton Crane, M.D., Associate Clinical Professor of Surgery.

Howard A. Frank, M.D., Associate Clinical Professor of Surgery, and Tutor in Surgery.

Hermes C. Grillo, M.D., Associate Clinical Professor of Surgery.

Edward Hamlin, Jr., M.D., Associate Clinical Professor of Surgery.

John Hedley-Whyte, M.B., Ch.B., A.M. (hon.), Associate Professor of Anaesthesia at the Beth Israel Hospital.

Vernon H. Mark, M.D., Associate Clinical Professor of Surgery.

Joseph E. Murray, M.D., Sc.D. (hon.), Associate Clinical Professor of Surgery.

George L. Nardi, M.D., Associate Clinical Professor of Surgery.

Melvin P. Osborne, M.D., Associate Clinical Professor of Surgery.

J. Gordon Scannell, M.D., Associate Clinical Professor of Surgery.

Robert M. Smith, M.D., Associate Clinical Professor of Anaesthesia.

Milton H. Alper, M.D., Assistant Clinical Professor of Anaesthesia, and Tutor in Medical Science.

H. Thomas Ballantine, Jr., M.D., Assistant Clinical Professor of Surgery.

Henrik H. Bendixen, M.D., Assistant Clinical Professor of Anaesthesia.

John F. Burke, M.D., Assistant Clinical Professor of Surgery.

Stanley Deutsch, Ph.D., M.D., Assistant Professor of Anaesthesia (resigned March 31, 1969).

Lawrence D. Egbert, M.D., Assistant Clinical Professor of Anaesthesia.

Robert M. Filler, M.D., Assistant Clinical Professor of Surgery, and Acting Head of the Department at The Children's Hospital.

Edward D. Frank, M.D., Assistant Clinical Professor of Surgery, and Tutor in Medical Sciences.

Phillips Hallowell, M.D., Assistant Clinical Professor of Anaesthesia.

Charles E. Huggins, M.D., Assistant Professor of Surgery at the Massachusetts General Hospital.

Walter S. Kerr, Jr., M.D., Assistant Clinical Professor of Surgery.

Raymond N. Kjellberg, M.D., Assistant Clinical Professor of Surgery.

Myron B. Laver, M.D., Assistant Clinical Professor of Anaesthesia.

Donald W. MacCollum, M.D., Assistant Clinical Professor of Surgery.

Ronald A. Malt, M.D., Assistant Professor of Surgery at the Massachusetts General Hospital.

Anthony P. Monaco, M.D., Assistant Professor of Surgery, and Tutor in Medical Sciences.

John C. Norman, M.D., Assistant Professor of Surgery.

W. Bradford Patterson, M.D., Assistant Clinical Professor of Surgery.

John V. Pikula, M.D., Assistant Clinical Professor of Surgery.

Henning Pontoppidan, M.D., Assistant Clinical Professor of Anaesthesia.

John W. Raker, M.D., Assistant Clinical Professor of Surgery.

Chester B. Rosoff, M.D., Assistant Clinical Professor of Surgery.

Alexander M. Rutenburg, M.D., Assistant Clinical Professor of Surgery, and Tutor in Medical Sciences.

Edwin W. Salzman, M.D., Assistant Professor of Surgery.

Samuel R. Schuster, M.D., Assistant Clinical Professor of Surgery.

Robert S. Shaw, M.D., Assistant Clinical Professor of Surgery.

John Shillito, Jr., M.D., Assistant Clinical Professor of Surgery, and Tutor in Medical Sciences.

Gene M. Smith, Ph.D., Assistant Professor of Psychology in Anaesthesia at the Massachusetts General Hospital.

George W. B. Starkey, M.D., Assistant Clinical Professor of Surgery.

Herbert S. Talbot, M.D., Assistant Clinical Professor of Surgery.

Donald P. Todd, M.D., Assistant Clinical Professor of Anaesthesia.

H. Brownell Wheeler, M.D., Assistant Clinical Professor of Surgery.

Richard E. Wilson, M.D., Assistant Professor of Surgery, and Tutor in Medical Sciences.

Henry J. Winn, Ph.D., Assistant Professor of Bacteriology and Immunology in the Department of Surgery at the Massachusetts General Hospital.

Nicholas T. Zervas, M.D., Assistant Professor of Surgery at the Beth Israel Hospital.

John Garcia, Ph.D., Lecturer on Psychology in the Department of Surgery at the Massachusetts General Hospital (resigned August 31, 1968).

Frederick W. Ackroyd, M.D., Associate in Surgery.

John G. Adams, Jr., M.D., Clinical Associate in Anaesthesia.

Menelaos A. Aliapoulios, M.D., Associate in Surgery.

Benjamin A. Barnes, M.D., Clinical Associate in Surgery.

Ernest M. Barsamian, M.D., Clinical Associate in Surgery.

Alan G. Birtch, M.D., Associate in Surgery, and Tutor in Medical Sciences.

Henry Brown, M.D., Clinical Associate in Surgery.

Mortimer J. Buckley, M.D., Associate in Surgery at the Massachusetts General Hospital.

Nathan P. Couch, M.D., Clinical Associate in Surgery.

Dean Crocker, M.D., Clinical Associate in Anaesthesia.

Willard M. Daggett, M.D., Associate in Surgery at the Massachusetts General Hospital.

Gordon A. Donaldson, M.D., Clinical Associate in Surgery.

Samuel Gilman, M.D., Clinical Associate in Anaesthesia.

Donald J. Glotzer, M.D., Clinical Associate in Surgery.

Robert M. Goldwyn, M.D., Clinical Associate in Surgery.

William H. Hendren, III, M.D., Clinical Associate in Surgery.

Louis Hermanson, M.D., Clinical Associate in Surgery.

Raphael H. Levey, M.D., Associate in Surgery (on leave from January 1, 1968).

Edward Lowenstein, M.D., Associate in Anaesthesia at the Massachusetts General Hospital.

Jack M. Matloff, M.D., Associate in Surgery.

Edward M. Mahoney, D.M.D., M.D., Clinical Associate in Surgery.

Elliott V. Miller, M.D., Clinical Associate in Anaesthesia.

Tassadduk H. Moghul, M.B., B.S., Clinical Associate in Surgery.

Alfred P. Morgan, Jr., M.D., Clinical Associate in Surgery, and Tutor in Medical Sciences.

Eldred D. Mundth, M.D., Associate in Surgery at the Massachusetts General Hospital.

Robert G. Ojemann, M.D., Clinical Associate in Surgery.

Alan D. Perlmutter, M.D., Clinical Associate in Surgery.

Louis N. Pernokas, M.D., Clinical Associate in Surgery.

John P. Remensnyder, M.D., Clinical Associate in Surgery.

George S. Richardson, M.D., Clinical Associate in Surgery.

John J. Skillman, M.D., Associate in Surgery, and Tutor in Medical Sciences.

Arnold Starr, M.D., Clinical Associate in Surgery.

Warren J. Taylor, M.D., Clinical Associate in Surgery.
Kenneth J. Welch, M.D., Clinical Associate in Surgery.
Earle W. Wilkins, Jr., M.D., Clinical Associate in Surgery.
Francis M. Woods, M.D., Clinical Associate in Surgery.
Herbert D. Adams, M.D., Lecturer on Surgery.
George Austen, Jr., Lecturer on Surgery.
Mark S. Chayen, M.B., B.S., Visiting Lecturer on Anaesthesia (from September 15, 1968).
John B. Das, M.B., B.S., Ph.D., Lecturer on Surgery.
Edward A. Gaensler, M.D., Lecturer on Surgery.
William M. Keynes, M.D., Visiting Lecturer on Surgery (through September 30, 1968).
Cornelius E. Sedgwick, M.D., Lecturer on Surgery.
Kenneth W. Warren, M.D., Lecturer on Surgery.
Adelbert Ames, III, M.D., Research Associate in Biological Chemistry in the Department of Surgery.
James E. Anliker, Ph.D., Research Associate in Anaesthesia.
Margaret R. Ball, A.B., Research Associate in Surgery.
Philip A. Drinker, Ph.D., Research Associate in Physiology in the Department of Surgery.
Joan W. Flacke, M.D., Research Associate in Anaesthesia.
Kenneth D. Glass, M.B., B.S., Research Associate in Surgery.
James E. Johnson, Ph.D., Research Associate in Biophysics in the Department of Surgery (through August 31, 1968).
Nathan Kaliss, Ph.D., Research Associate in Surgery.
Ruth B. Kundsin, Sc.D., Research Associate in Bacteriology in the Department of Surgery.
Lembit H. Laasberg, Ph.D., Research Associate in Anaesthesia.
Peter B. Lambert, M.B., Ch.B., Research Associate in Surgery.
Padmakar P. Lele, M.D., Dr.Phil., Research Associate in Physiology in the Department of Surgery.
Asenath Petrie, Ph.D., Research Associate in Psychology in the Department of Surgery.
Daniel A. Pollen, M.D., Research Associate in Neurobiology in the Department of Surgery.

Amram Rasiel, Ph.D., Research Associate in Surgery (from October 15, 1968).

Albert H. Soloway, Ph.D., Research Associate in Chemistry in the Department of Surgery.

Peter T. Sum, M.D., Ph.D., Research Associate in Surgery.

Arthur L. Abrams, M.D., Instructor in Anaesthesia (resigned September 27, 1968).

Hart Achenbach, M.D., Instructor in Surgery.

Norman W. Andrew, M.D., Instructor in Anaesthesia.

George E. Battit, M.D., Instructor in Anaesthesia.

Glenn E. Behringer, M.D., Instructor in Surgery.

Harold Bengloff, M.D., Instructor in Surgery.

Patrick J. Bennett, M.B., B.S., Instructor in Anaesthesia (from September 15, 1968).

Solomon Berg, M.D., Instructor in Surgery.

Harrison Black, M.D., Instructor in Surgery.

Milton F. Brougham, M.D., Instructor in Surgery.

Hathorn P. Brown, M.D., Instructor in Surgery.

John M. R. Bruner, M.D., Instructor in Anaesthesia.

Leonard S. Bushnell, M.D., Instructor in Anaesthesia.

Carl F. Cady, M.D., Instructor in Anaesthesia (through August 31, 1968).

John W. Chamberlain, M.D., Instructor in Surgery.

Arnold H. Colodny, M.D., Instructor in Surgery.

Francis L. Comunale, M.D., Instructor in Anaesthesia.

John D. Constable, M.D., Instructor in Surgery.

John M. Crowe, M.D., Instructor in Surgery.

Brian C. Dalton, M.D., Instructor in Anaesthesia.

J. Bent Danielsen, M.D., Instructor in Anaesthesia (from October 1, 1968).

Robert E. Desautels, M.D., Instructor in Surgery.

Donald P. Dressler, M.D., Instructor in Surgery.

William S. Easton, M.D., Instructor in Anaesthesia.

Angelo J. Eraklis, M.D., Instructor in Surgery.

Albert J. Finck, M.D., Instructor in Anaesthesia.

William F. Flynn, M.D., Instructor in Surgery.

Edward W. Friedman, M.D., Instructor in Surgery, and Tutor in Medical Sciences.

Richard W. Gabriel, M.B., Ch.B., Instructor in Anaesthesia (resigned December 31, 1968).

Philip G. Gallagher, M.D., Instructor in Surgery.

Bennie Geffin, M.B., Ch.B., Instructor in Anaesthesia.

Raymond W. Gibbs, M.D., Instructor in Surgery.

George H. Gifford, Jr., M.D., Instructor in Surgery.

Julius E. Goldblatt, M.D., Instructor in Surgery.

Ernest Grable, M.D., Instructor in Surgery.

Edward B. Gray, Jr., M.D., Instructor in Surgery.

Harold L. Greenberg, D.M.D., M.D., Instructor in Surgery.

Israel Gross, M.B., Ch.B., Instructor in Anaesthesia (from August 1, 1968).

Eugene A. Guralnick, M.D., Instructor in Surgery.

Hannibal Hamlin, M.D., Instructor in Surgery.

Stephen J. Healey, M.D., Instructor in Surgery.

Zolman Helfand, D.M.D., M.D., Instructor in Surgery.

Carl S. Hoar, Jr., M.D., Instructor in Surgery.

Stephen J. Hoye, M.D., Instructor in Surgery.

Carol H. Johnson, D.D.S., Instructor in Anaesthesia.

Barnett J. Junker, M.D., Instructor in Anaesthesia (from November 1, 1968).

Bogdan K. Kaminski, Dr.Med., Instructor in Anaesthesia (from September 1, 1968 through January 31, 1969).

Lee G. Kendall, M.D., Instructor in Surgery.

Lee V. Leak, Ph.D., Instructor in Anatomy in the Department of Surgery.

Feung B. Lee, M.D., Instructor in Surgery.

Richard H. Litner, M.D., Instructor in Surgery.

Samuel Lowis, M.D., Instructor in Surgery.

John D. MacArthur, M.D., Instructor in Surgery, and Tutor in Medical Sciences.

David T. Mahony, M.D., Instructor in Surgery.

David E. Marcello, Jr., D.M.D., M.D., Instructor in Surgery.

Phillip S. Marcus, M.D., Instructor in Anaesthesia.

Edgar Martinez-Aguirre, M.D., Instructor in Anaesthesia (through December 31, 1968).
Eugene F. McDonough, Jr., M.D., Instructor in Surgery.
John B. McKittrick, M.D., Instructor in Surgery.
Bucknam McPeek, M.D., Instructor in Anaesthesia.
Keith Merrill, Jr., M.D., Instructor in Surgery.
Jost J. Michelsen, M.D., Instructor in Surgery.
Roger H. Morris, M.D., Instructor in Anaesthesia.
Daniel J. Mullane, M.D., Instructor in Surgery.
Nial P. Murray, M.B., Ch.B., Instructor in Anaesthesia.
Louis H. Nason, M.D., Instructor in Surgery.
Robert A. Newton, M.D., Instructor in Surgery.
Edward T. O'Hara, M.D., Instructor in Surgery.
Leslie W. Ottinger, M.D., Instructor in Surgery.
Edward C. Parkhurst, M.D., Instructor in Surgery.
Louis F. Plzak, Jr., M.D., Instructor in Surgery.
William C. Quinby, Jr., M.D., Instructor in Surgery.
William S. Rachlin, M.D., Instructor in Surgery.
Grant V. Rodkey, M.D., Instructor in Surgery.
Dermot S. Restall, M.B., B.S., Instructor in Anaesthesia.
Louis S. Robbins, M.D., Instructor in Anaesthesia.
Sigurd Rosenkaimer, M.D., Instructor in Anaesthesia (from September 1, 1968).
David A. Roth, M.D., Instructor in Surgery.
John L. Rowbotham, M.D., Instructor in Surgery.
Joseph F. Ruscio, M.D., Instructor in Anaesthesia.
James F. Schauble, M.D., Instructor in Anaesthesia (from January 1, 1969).
N. Paul Schepis, M.D., Instructor in Anaesthesia.
Heinz K. Schonmetzler, M.D., Instructor in Anaesthesia.
Bernard R. Sears, M.D., Instructor in Surgery.
Arnold L. Segel, M.D., Instructor in Surgery.
Talbot D. Seigne, M.B., Ch.B., Instructor in Anaesthesia (resigned August 31, 1968).
Donald B. Shahon, M.D., Ph.D., Instructor in Surgery.

Simon J. Simonian, M.B., B.S., Instructor in Surgery.
Maurice Slapak, M.B., Ch.B., Instructor in Surgery.
Ivor S. Smith, M.B., Instructor in Anaesthesia.
Alan R. Spievack, M.D., Instructor in Surgery.
Albert M. Starr, M.D., Instructor in Surgery.
Doris W. Stickler, M.B., Ch.B., Instructor in Anaesthesia.
Howard I. Suby, M.D., Instructor in Surgery.
Howard A. Trachtenberg, M.D., Instructor in Anaesthesia.
Barbara E. Waud, M.D., Instructor in Anaesthesia.
Jess B. Weiss, M.D., Instructor in Anaesthesia.
Frank C. Wheelock, Jr., M.D., Instructor in Surgery.
Malvin F. White, D.M.D., M.D., Instructor in Surgery.
Lorande M. Woodruff, M.D., Instructor in Surgery.
Raleigh L. Wright, M.D., Instructor in Surgery.
Masao Yatsuhashi, M.D., Instructor in Surgery.
William A. Yorzyk, M.D., Instructor in Anaesthesia (resigned July 28, 1968).
Hugh H. Young, II, M.D., Instructor in Surgery.
Gerald L. Zeitlin, M.B., Ch.B., Instructor in Anaesthesia (resigned September 30, 1968).
Clarence E. Zimmerman, II, M.D., Instructor in Surgery.
Robert M. Zollinger, Jr., M.D., Instructor in Surgery.
Raphael Adar, M.B., Ch.B., M.D., Assistant in Surgery (through September 30, 1968).
John R. Algird, M.D., Assistant in Anaesthesia.
Mahgul Ali, M.B., B.S., Assistant in Anaesthesia (from October 1, 1968).
Richard C. Austin, M.D., Assistant in Surgery.
Edward P. Baker, Jr., M.D., Assistant in Surgery.
Ronald Birkenfeld, M.D., Assistant in Surgery.
John H. L. Bland, M.B., Ch.B., Assistant in Anaesthesia.
Martha B. Boyd, M.D., Assistant in Anaesthesia (from August 1, 1968).
John W. Braasch, M.D., Ph.D., Assistant in Surgery.
Ann E. Brown, M.B., B.S., Assistant in Anaesthesia (from September 1, 1968).

Charles B. Burbank, M.D., Assistant in Surgery.
Donald E. Butterfield, M.D., Assistant in Surgery.
Blake Cady, M.D., Assistant in Surgery.
Robert C. Cantu, M.D., Assistant in Surgery.
Edwin L. Carter, M.D., Assistant in Surgery.
Francis D. Cogliano, M.D., Assistant in Surgery.
John J. Collins, Jr., M.D., Assistant in Surgery.
Joseph W. Copel, M.D., Assistant in Surgery.
R. Clement Darling, M.D., Assistant in Surgery.
Enrico F. DeMaio, M.D., Assistant in Surgery.
Andrew K. Dewar, M.B., Ch.B., Assistant in Anaesthesia (resigned November 30, 1968).
Chester J. Dexter, M.D., Assistant in Surgery.
Robert F. Dine, M.D., Assistant in Surgery.
Joseph F. Dorsey, M.D., Assistant in Surgery.
Charles A. Fager, M.D., Assistant in Surgery.
Eric B. Furman, M.B., Ch.B., Assistant in Anaesthesia.
Frank W. Garran, Jr., M.D., Assistant in Surgery.
Richard F. Gibbs, M.D., Assistant in Anaesthesia.
John A. Goodwin, D.A., Assistant in Anaesthesia.
Stanley K. Gordon, M.D., Assistant in Surgery.
Winslow W. C. Green, M.D., Assistant in Surgery.
Irad B. Hardy, M.D., Assistant in Surgery.
John M. Head, M.D., Assistant in Surgery.
Stephen E. Hedberg, M.D., Assistant in Surgery.
Dorothy K. Heerdegen, M.D., Assistant in Anaesthesia.
Bruce M. Henderson, M.B., Ch.B., Assistant in Surgery.
Hans T. Henriksen, M.D., Assistant in Anaesthesia (through July 31, 1968).
Hyman A. Hershman, M.D., Assistant in Surgery.
Clement A. Hiebert, M.D., Assistant in Surgery.
Dorothy A. Hill, M.B., B.S., Assistant in Anaesthesia (resigned December 31, 1968).
Lucius T. Hill, Jr., M.D., Assistant in Surgery.
Alfred T. Joseph, D.M.D., M.D., Assistant in Surgery.
Karen S. Kagey, M.D., Assistant in Surgery

John W. D. Knox, M.B., Ch.B., Assistant in Anaesthesia (through January 31, 1969).
Constantine I. Kostas, M.D., Assistant in Surgery.
Clinton N. Koufman, M.D., Assistant in Surgery.
Susanne J. Lamdin, M.D., Assistant in Anaesthesia.
Edwin F. Lang, Jr., M.D., Assistant in Surgery.
Demetrios G. Lappas, M.D., Assistant in Anaesthesia.
Lucy Lee, M.D., Assistant in Anaesthesia.
Sabin S. Levenson, M.D., Assistant in Surgery.
David J. Lightman, M.B., B.S., D.A., Assistant in Anaesthesia (resigned November 30, 1968).
S. Bertrand Litwin, M.D., Assistant in Surgery.
John A. Lynch, M.D., Assistant in Surgery.
Edward J. Mahoney, M.D., Assistant in Anaesthesia.
Rita A. Manzi, M.D., Assistant in Anaesthesia.
Mary P. Mehrez, M.B., Ch.B., Assistant in Anaesthesia.
Carroll C. Miller, M.D., Assistant in Surgery.
William J. O'Brien, M.B., B.S., Assistant in Anaesthesia (from February 1, 1969).
Rennee B. O'Sullivan, M.D., Assistant in Surgery.
Larry K. Page, M.D., Assistant in Surgery.
Wynne L. Parry, M.B., Ch.B., Assistant in Anaesthesia (through December 31, 1968).
Anthony S. Patton, M.D., Assistant in Surgery.
Anne W. Phillips, M.D., Assistant in Surgery.
Marvin J. Powell, M.D., Assistant in Surgery.
Valerie J. Prior, M.B., B.S., Assistant in Anaesthesia (resigned November 30, 1968).
Francis X. Rockett, M.D., Assistant in Surgery.
William P. Rogers, Jr., M.D., Assistant in Surgery.
Harold A. Rudy, M.D., Assistant in Surgery.
S. Peter Sarris, M.D., Assistant in Surgery.
Robert Shapiro, M.D., Assistant in Surgery.
Melvin I. Shoul, M.D., Assistant in Surgery.
Laurence A. Simons, M.B., B.S., Assistant in Anaesthesia (resigned August 14, 1968).

William L. Strickler, M.D., Assistant in Surgery.
Kenneth W. Travis, M.D., Assistant in Anaesthesia.
Erika C. E. Treder, M.D., Assistant in Anaesthesia (resigned February 8, 1969).
Philip H. Walker, M.D., Assistant in Surgery.
Sarita G. Walzer, M.D., Assistant in Anaesthesia.
Chiu-an Wang, M.D., Assistant in Surgery.
Brian R. Wilkey, M.B., Ch.B., Assistant in Anaesthesia (through March 31, 1969).
Harold A. Wilkinson, M.D., Ph.D., Assistant in Surgery.
Sybil W. Woo, M.D., Assistant in Anaesthesia.
Mitsuo Yokoyama, M.D., Assistant in Anaesthesia.
Walter Zuckerman, M.D., Assistant in Surgery.
Geert Ab, Ph.D., Research Fellow in Surgery (from September 1, 1968).
Shichisaburo Abo, M.D., Research Fellow in Surgery (through September 30, 1968).
Tsuyoshi Akiyoshi, M.D., Research Fellow in Surgery.
Joseph L. Alexander, M.D., Research Fellow in Surgery.
Akahito Aoki, M.D., Research Fellow in Surgery (resigned October 31, 1968).
Wayne E. Baldwin, M.D., Research Fellow in Anaesthesia (resigned November 28, 1968).
Robert H. Bartlett, M.D., Arthur Tracy Cabot Research Fellow in Surgery.
Alessandro Basso, M.D., Research Fellow in Surgery (through September 30, 1968).
Paul R. Berry, M.B., Ch.B., Research Fellow in Anaesthesia (resigned September 30, 1968).
Jesus A. Bianco, M.D., Research Fellow in Surgery.
George Blackburn, M.D., Research Fellow in Surgery.
William W. Bonney, M.D., Research Fellow in Surgery.
Bruce J. Brener, M.D., Research Fellow in Surgery.
Burton A. Briggs, M.D., Research Fellow in Anaesthesia.
Arthur H. Brown, M.B., B.S., Research Fellow in Surgery (from September 1, 1968).

Richard L. Burleson, M.D., Research Fellow in Surgery.

Marco Castagneto, M.D., Research Fellow in Surgery (from September 1, 1968).

Ronald J. Chandross, Ph.D., Research Fellow in Surgery.

Federico D. Chavez-Peon, M.D., Research Fellow in Surgery.

Aloysius J. Chen, M.D., Research Fellow in Surgery.

Chung H. Cho, M.D., Research Fellow in Anaesthesia (resigned December 31, 1968).

Christos Christoforides, M.D., Research Fellow in Anaesthesia.

Arnold G. Coran, M.D., Research Fellow in Surgery.

A. Benedict Cosimi, M.D., Research Fellow in Surgery.

Robert Cossette, M.D., Research Fellow in Surgery.

Dorothy M. Crawford, M.B., Ch.B., Research Fellow in Anaesthesia (from September 1, 1968).

Hilary K. Darrah, B.Sc., Research Fellow in Anaesthesia.

Jane E. Denton, M.D., Research Fellow in Anaesthesia.

Jan R. Dmochowski, M.D., Research Fellow in Surgery.

Slobodan Dragacevic, M.D., Research Fellow in Surgery (through September 30, 1968).

Graham H. Farrington, M.B., Ch.B., Research Fellow in Surgery (from November 1, 1968).

Edwin G. Fischer, M.D., Research Fellow in Surgery (from October 1, 1968 through March 31, 1969).

Chester J. Flynn, M.D., Research Fellow in Anaesthesia (resigned August 31, 1968).

Dominique J. Franco, M.D., Research Fellow in Surgery (through February 28, 1969).

David G. Fromm, M.D., Research Fellow in Surgery.

Michael J. Fitzgerald, M.D., Research Fellow in Surgery (from August 15, 1968).

Geoffrey R. Giles, M.B., Ch.B., Research Fellow in Surgery (through January 31, 1969).

Eduardo Gonzalez, M.D., Research Fellow in Surgery.

Geoffrey H. Greatrex, M.B., B.S., Research Fellow in Surgery (from September 1, 1968).

Erik Guthy, M.D., Research Fellow in Surgery (from October 1, 1968).

Mark A. Hardy, M.D., Research Fellow in Surgery.

Simindokht Hazrati, M.D., Research Fellow in Anaesthesia (resigned August 31, 1968).

John W. Hennessey, M.D., Research Fellow in Anaesthesia.

Richard E. Hicks, M.D., Research Fellow in Surgery.

Kenneth E. Hobbs, M.B., B.S., Research Fellow in Surgery (from October 1, 1968).

Robert T. Holl-Allen, M.B., B.S., Research Fellow in Surgery (from October 1, 1968).

Muzaffar Husain, M.B., B.S., Research Fellow in Surgery.

Mohammad A. Ilahi, M.B., B.S., Research Fellow in Surgery (resigned October 15, 1968).

Johannes Jeekel, M.D., Research Fellow in Surgery (through (February 28, 1969).

Julio Joison, M.D., Research Fellow in Surgery.

Fumihiko Kato, M.D., Research Fellow in Surgery (from September 1, 1968).

Ronald G. Kay, M.B., Ch.B., Research Fellow in Surgery.

Yasushi Kojima, M.D., Research Fellow in Surgery (through August 31, 1968).

Charles J. Kopriva, M.D., Research Fellow in Anaesthesia (through July 31, 1968).

Moti L. Kothari, M.B., B.S., Research Fellow in Surgery.

Robert K. J. Koumans, M.D., Research Fellow in Surgery.

Kazimierz Krejcy, M.D., Research Fellow in Surgery.

Frederick C. Lane, M.D., Research Fellow in Surgery.

Alejandro Latzina, M.D., Research Fellow in Surgery.

David C. Lyon, M.B., Ch.B., Research Fellow in Surgery (through November 30, 1968).

Allan S. MacDonald, M.D., Research Fellow in Surgery.

Peter N. Madras, M.D., Research Fellow in Surgery (through March 31, 1969).

Toshio Miyakuni, M.D., D.M.Sc., Research Fellow in Surgery.

Ryuji Mizumoto, M.D., D.M.Sc., Research Fellow in Surgery (through October 31, 1968).

Jose E. Montiero Da Cunha, M.D., Research Fellow in Surgery.

Takesada Mori, M.D., Research Fellow in Surgery (through July 31, 1968).

Subhas C. Mullick, M.B., B.S., Research Fellow in Surgery.

Hana A. Musilova, M.D., Research Fellow in Surgery (through March 31, 1969).

Nicholas E. O'Connor, M.D., C.M., Research Fellow in Surgery.

Thomas F. O'Donnell, Jr., M.D., Research Fellow in Surgery.

Peter N. Oliynyk, M.D., Research Fellow in Surgery (from November 1, 1968).

Waldemar L. Olszewski, M.D., Ph.D., Research Fellow in Surgery (from November 1, 1968).

Ryozo Omoto, M.D., D.M.Sc., Research Fellow in Surgery (through October 31, 1968).

Koshiro Ono, M.D., Research Fellow in Surgery.

Young H. Park, M.D., Research Fellow in Surgery (through March 31, 1969).

David A. Parker, M.D., Research Fellow in Surgery (from July 15, 1968).

Christopher A. Pegg, M.B., B.S., Research Fellow in Surgery (from September 1, 1968).

Graham C. Priestley, M.D., Research Fellow in Surgery (through September 30, 1968).

Jerome Quint, M.D., Research Fellow in Surgery.

Walter A. Reiling, Jr., M.D., Research Fellow in Surgery (through October 3-, 1968).

Juan Rodriguez-Alvarez, M.D., Research Fellow in Surgery (through September 30, 1968).

Rogelio R. Rojas-Corona, M.D., Research Fellow in Surgery.

Steven A. Rosenberg, M.D., Research Fellow in Surgery (from January 1, 1969).

Joseph W. Rubin, M.D., Research Fellow in Surgery.

Vicente G. Rubin, M.D., Research Fellow in Surgery.

Bruno Salerni, M.D., Research Fellow in Surgery (from January 15, 1969).

Alois F. Scharli, M.D., Research Fellow in Surgery (resigned December 31, 1968).

Jaen-min Sheh, M.D., Research Fellow in Surgery.

Harry J. Sheiner, M.B., B.S., Research Fellow in Surgery (through December 31, 1968).

John M. Singleton, M.B., Research Fellow in Surgery.

Emil Skamene, M.D., Research Fellow in Surgery (from September 1, 1968).

Kuniyuki Someda, M.D., D.M.Sc., Research Fellow in Surgery (through August 31, 1968).

Ikuro Takada, M.D., Research Fellow in Surgery.

Shoetsu Tamakuma, D.M.Sc., Research Fellow in Surgery (from September 1, 1968).

Ludgerio D. Torres, M.D., Research Fellow in Surgery.

Michael C. Trachtenberg, Ph.D., Research Fellow in Surgery.

Joseph Martin van de Water, M.D., Research Fellow in Surgery (from September 1, 1968).

James G. Wepsic, M.D., Research Fellow in Surgery (through December 31, 1968).

Marvin J. Wexler, M.D., C.M., Research Fellow in Surgery.

Margherita P. Willems, Ch.D., Research Fellow in Surgery.

Grant B. Williams, M.B., B.S., Research Fellow in Surgery (from October 1, 1968).

V. Anne Wonham, Ph.D., Research Fellow in Surgery.

John E. Woods, M.D., Ph.D., Research Fellow in Surgery.

Shinji Yuasa, M.D., Ph.D., Research Fellow in Surgery (through April 30, 1969).

Arthur L. Amacher, M.D., Teaching Fellow in Surgery (from January 1, 1969).

Robert M. Becher, M.D., Teaching Fellow in Surgery (through September 30, 1968).

Raphael S. Chung, M.B., B.S., Teaching Fellow in Surgery.

Robert J. Corry, M.D., Teaching Fellow in Surgery.

Akshay N. Dalal, M.B., B.S., Teaching Fellow in Anaesthesia (from November 1, 1968).

Neil Decter, M.D., Teaching Fellow in Surgery (through December 31, 1968).

Shobhana B. Diwadkar, M.B., B.S., Teaching Fellow in Anaesthesia (from November 1, 1968).

Josef E. Fischer, M.D., Teaching Fellow in Surgery.

Alan B. Gazzaniga, M.D., Teaching Fellow in Surgery (from January 1, 1969).

J. Brysson Greenwell, Jr., M.D., Teaching Fellow in Surgery (from October 1, 1968).

James M. Hartsuck, M.D., Arthur Tracy Cabot Teaching Fellow in Surgery (through December 31, 1968).

Jimmy E. Jones, M.D., Teaching Fellow in Surgery.

Isufali M. Kundawala, M.B., B.S., Teaching Fellow in Anaesthesia (from November 1, 1968).

Peter B. Mansfield, M.D., Teaching Fellow in Surgery (from January 1, 1969).

Ashby C. Moncure, M.D., Teaching Fellow in Surgery (through December 31, 1968).

Bipinchandra M. Parikh, M.B., B.S., Teaching Fellow in Anaesthesia.

Alan D. Rosenthal, M.D., Teaching Fellow in Surgery (through December 31, 1968).

Yash V. Sachdev, M.B., B.S., Teaching Fellow in Surgery (from January 1, 1969).

Ronald M. Weintraub, M.D., Teaching Fellow in Surgery.

John S. Willens, M.D., Teaching Fellow in Anaesthesia.

Required Courses

Instruction will be given by amphitheatre clinics, lectures, and conferences, together with section teaching in the wards and out-patient departments of the hospitals and in the surgical research laboratories.

Surgery. *Second Year.* — The course is designed to correlate preclinical sciences with the basic principles underlying the surgical management of injury and disease. The Department of Surgery joins with the Department of Medicine in a series of exercises in physical

diagnosis and laboratory medicine to offer unified instruction in case taking. Practical exercises are offered that introduce the student to basic surgical techniques.

SURGERY. *Introduction to the Clinic.* — This program, conducted on a twelve-week basis is considered as a unit, with approximately one third of the total time devoted to surgical instruction, one third to internal medicine, and one third to the various special interests in both medicine and surgery. During the course of surgery, intensive instruction in surgical disease, surgical pathology, surgical treatment and surgical techniques is given at the B.I.H., B.C.H., M.G.H., and P.B.B.H.

SURGERY. *Principal Clinical Year.* — The twelve month clinical year is divided into four three month periods. For each student one of these periods will be devoted to surgery at the Beth Israel Hospital, the Boston City Hospital, the Massachusetts General Hospital or the Peter Bent Brigham Hospital. Certain surgical specialty interests are included in the surgery quadrimester, such as Urology, Anaesthesia and Neurosurgery as well as Outpatient and Emergency Ward experience. Other surgical interests and special areas such as Orthopedics, Otolaryngology and Ophthalmology are included in another quadrimester.

SECOND YEAR	HOURS
Section work, case taking, lectures, and demonstrations on the physical diagnosis of surgical disease in conjunction with the Department of Medicine. Drs. SILEN, MCDERMOTT, COPE, MOORE, and ASSOCIATES. B.I.H., B.C.H., M.G.H., and P.B.B.H. Each student has twenty-four exercises.	84
INTRODUCTION TO THE CLINIC	
Exercises in sections in the wards and outpatient departments at the B.I.H., B.C.H., M.G.H., and P.B.B.H.	121
PRINCIPAL CLINICAL YEAR	
Clinical Clerkship: B.I.H. (Dr. SILEN and ASSOCIATES); B.C.H. (Dr. MCDERMOTT and ASSOCIATES); M.G.H. (Dr. COPE and ASSOCIATES); P.B.B.H. (Dr. MOORE and ASSOCIATES).	480

Fourth Year Elective Courses *

A wide range of special opportunities is made available in the various surgical departments for additional clinical experience and for participation in programs of laboratory investigation related to current surgical problems (see below).

BLOCK COURSES

501M. Clinical Surgery. Dr. McDermott and Associates.
502M. Children's Surgery. Dr. Gross and Associates. (*Same course as Pediatrics 527M.*)
504M. Clinical Application of Surgical Biology. Dr. Russell and Associates.
505M. Emergency Care — Surgical and Medical. Drs. Wilkins and Bird.
506M. Infectious Disease: Surgical Infection. Dr. Burke and Associates.
507M. Endocrinology with Special Reference to the Ovary. Drs. Ulfelder, G. S. Richardson, McArthur, and Scully. (*Same course as Obstetrics and Gynecology 513M.*)
508M. Pulmonary I. Chronic Chest Disease: Medical and Surgical Aspects. Drs. Scannell and Bird.
509M. Pulmonary II. Management of Acute and Chronic Respiratory Insufficiency. Dr. Pontoppidan and Associates.
510M. Cardiovascular Physiology. Dr. W. G. Austen.
511M. Cardiac Surgery. Drs. W. G. Austen and Scannell.
512M. Management of the Patient for Anaesthesia and Surgery. Drs. Beecher, Todd, and Associates.
513M. Pediatric Surgery. Dr. Hendren. (*Same course as Pediatrics 525M.*)
514M. Advanced Surgery. Drs. R. Warren, Wheeler and Associates.
516M. Surgical Study and Clinical Care. Dr. F. D. Moore and Associates.
523M. Spinal Cord Injury. Dr. H. S. Talbot and Associates.
525M. Advanced Clinical Surgery. Dr. Silen and Associates.
526M. Thoracic Surgery. Dr. H. A. Frank.
527M. Peripheral Vascular Surgery. Dr. E. D. Frank.
528M. Clinical Studies of Antibiotic Therapy. Dr. A. M. Rutenberg.
529M. Clinical Neurosurgery. Dr. Sweet and Associates.
530M. Clinical Gastrointestinal Disease (Medical and Surgical). Drs. J. R. Brooks, Snodgrass, and Associates.
531M. Ambulatory Surgery. Drs. Behringer, Wilkins, and Associates.
532M. Plastic and Reconstructive Surgery. Drs. Cannon and Constable.
533M. Clinical Surgery. Dr. Rodkey.
534M. Clinical Urology. Dr. W. F. Leadbetter and Associates.
535M. Vascular Diseases. Drs. Deykin and Salzman. (*Same course as Medicine 505M.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

536M. The Physiology of Surgical Treatment and Recovery. Dr. Clowes and Associates.
537M. Clinical Problems in Neurosurgery. Dr. Marks and Associates.
538M. Liver Surgery. Dr. Malt.
539M. Management of the Patient in Respiratory Failure. Drs. Bushnell, Skillman, Yorzyk, and Hedley-Whyte.
540M. Management of Anesthesia. Drs. Hedley-Whyte and Trachtenberg.

LONGITUDINAL COURSES

703. Clinical and Investigative Gastroenterology. Dr. Osborne and Associates, Dr. Zamchek and Associates. (*Same course as Medicine 715.*)
704. Pediatric Urologic Problems. Dr. Perlmutter. (*Same course as Pediatrics 701.*)
709. Molecular Mechanisms in Neoplasia. Dr. Wallach and Associates. (*Same course as Biochemistry 704, Interdepartmental Course 755, and Biochemistry 222, Faculty of Arts and Sciences.*)
710. Intensive Care and Inhalation Therapy of the Critically Ill. Dr. F. D. Moore and Associates.

Interdepartmental and Special Courses

Fourth Year Elective Courses *

BLOCK COURSES

602M. Biology of Malignant Disease. Drs. Raker, Farber, Lisco, Zamecnik, Hiatt, Kohn, Wilson, Folkman, and Associates.

604M. Ambulatory Medicine. Drs. Stoeckle, J. P. Connelly, Sidel, and Knowles.

605M. Experimental Biology of Oncolytic and Immunosuppressive Agents. Dr. Farber and Associates.

LONGITUDINAL COURSES

751. Clinical Pharmacology of Oncolytic and Immunosuppressive Agents. Dr. Farber and Associates.

753M. Family Health Care Program. Drs. Alpert, J. W. Brown, Bullard, Budner, Buxbaum, Feinbloom, Heagarty, Robbins, and Associates. (*Same course as Pediatrics 702M.*)

755. Molecular Mechanisms in Neoplasia. Dr. Wallach and Associates. (*Same course as Biochemistry 704, Surgery 709, and Biochemistry 222, Faculty of Arts and Sciences.*)

757. Roxbury Community Health Program. Drs. R. B. Berg, I. Silverman, and Associates.

758. Determinants of Drug Response in Neoplasms. Drs. Kessel and Reys.

760. History of Psychiatry. Dr. Otto Marx.

Special Course — Required

LEGAL MEDICINE

Principal Clinical Year. — Fourteen one hour lectures. Dr. Curran and Associates. The relationship of the physician to organized society. Laws and legal principles relating to the practice of medicine. Medical evidence and its relation to the administration of justice. Principles of forensic pathology and toxicology.

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

Tropical Public Health

This course is given by the following members of the Faculty of the Harvard School of Public Health.

Thomas H. Weller, M.D., LL.D., Richard Pearson Strong Professor of Tropical Public Health, and Head of the Department.

Franklin A. Neva, M.D., John La Porte Given Professor of Tropical Public Health.

Eli Chernin, S.D., Associate Professor of Tropical Public Health.

Thomas E. Frothingham, M.D., Associate Professor of Tropical Public Health.

Edward H. Michelson, Ph.D., Assistant Professor of Tropical Public Health.

Steve C. Pan, M.D., M.P.H., Assistant Professor of Tropical Public Health.

Andrew Spielman, S.D., Assistant Professor of Tropical Public Health.

Required Course

Parasitology A. *Second Year.*—The important helminth and protozoan parasites of man are considered with reference to their geographic distribution, identification, mode of transmission, pathogenesis, immune reactions and methods for prevention and control. Clinical aspects and chemotherapy of parasitic diseases are discussed. Emphasis is given to methods of laboratory diagnosis.

SECOND YEAR	HOURS
Lectures, demonstrations, and laboratory work. Dr. Weller and Staff. Monday, Wednesday, and Friday afternoons, January and February	41

Elective and Voluntary Courses

Courses offered by the Department of Tropical Public Health in the School of Public Health are open, as electives, to medical students. The research facilities of the Department are available for elective work by qualified students, and opportunities for experience in tropical areas may be arranged. (See also page 280).

School of Public Health

The courses listed below are given by members of the Faculty of the School of Public Health and are offered as elective courses to members of the fourth year class of the Medical School.

*Fourth Year Elective Courses**

LONGITUDINAL COURSES

701. Statistical Methods in Research. Drs. Reed, Worcester, and Drolette. (*Same course as Biostatistics 3 c,d, S.P.H.*)
702. Epidemiology of Non-Infectious Disease. Dr. MacMahon and Staff. (*Same course as Epidemiology 3 c,d, S.P.H.*)
703. Public Health and Laboratory Aspects of Infectious Diseases of Microbial Origin. Dr. Murray and Associates. (*Same course as Microbiology 4c, S.P.H.*)
704. Intracellular Microorganisms Pathogenic for Man. Drs. Murray, Bell, Chang, and Associates. (*Same course as Microbiology 13d, S.P.H.*).
705. Special Topics in Respiratory Physiology. Dr. Mead and Associates. (*Same course as Physiology 6d, S.P.H.*)
706. Radiation Biology. Dr. Little. (*Same course as Physiology 7c,d, S.P.H.*)
707. Problems in Tropical Health. Dr. Weller and Guest Lecturers. (*Same course as Tropical Public Health 3d, S.P.H.*)
708. Public Health Aspects of Parasitic Diseases. Dr. Pan and Associates. (*Same course as Tropical Public Health 4c, S.P.H.*)
709. Introduction to Molluscs of Public Health Importance. Dr. Michelson. (*Same course as Tropical Public Health 7d, S.P.H.*)
710. Introduction to Medical Entomology. Dr. Spielman. (*Same course as Tropical Public Health 9d, S.P.H.*) Not given in 1968–1969.
711. Clinical and Pathologic Features of Tropical Diseases. Drs. Neva, von Lichtenberg, and Associates. (*Same course as Tropical Public Health 5c, S.P.H.*)
712. Tuberculosis. Dr. D. Koch-Weser, Miss Campbell, and Associates. (*Same course as Microbiology and Tropical Public Health 6c, S.P.H.*)
713. Nutritional Aspects of Human Disease. Drs. Herrera-Acena, Lown, and Miller. (*Same course as Nutrition 6c,d, S.P.H.*)
714. Epidemiology and Control of Schistosomiasis. Dr. Michelson and Associates. (*Same course as Tropical Public Health 8d, S.P.H.*)
715. Current Problems in Malariology. Dr. Chernin and Associates. (*Same course as Tropical Public Health 10d, S.P.H.*)

* See *A Schedule of Fourth Year Elective Courses and Research Opportunities 1968–1969* for additional information.

DEGREES CONFERRED

On June 13, 1968, One Hundred Thirty-nine Degrees were Conferred as Follows:

M.D.

Richard Franklin Adair, a.b. 1964.

Patricia Cronin Adams, a.b. (*Bennington Coll.*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.

Einar Wulfsberg Anderson, a.b. (*Stanford Univ.*) 1963.

John El Roy Arradondo, a.b. (*Oklahoma City Univ.*) 1963.

Michael Stoskopf Ascher, a.b. (*Univ. of Colorado*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.

St. George Tucker Aufranc.

Ronald Ralph Benz, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Wendy Glasgow Clough Benz, a.b. 1964, b.m.s. (*Dartmouth Coll.*) 1966.

Herbert Boerstling, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Spencer Borden, 4th, a.b. 1963, b.m.s. (*Dartmouth Coll.*) 1966.

Jan Leslie Breslow, a.b. (*Columbia Univ.*) 1963, a.m. (*ibid.*) 1964.

Carlton Stewart Brownstein, a.b. (*Williams Coll.*) 1964.

Lewis LeRoy Bruggeman, a.b. (*Dartmouth Coll.*) 1963, b.m.s. (*ibid.*) 1965.

John David Bullock, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Herschel Andrea Carpenter, a.b. (*Univ. of North Dakota*) 1965, s.b. in med. (*ibid.*) 1966.

Michael Melvin Cebrik, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Suzanne Esther Chagnon, a.b. (*Univ. of Vermont*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.

Joan Tucker Burgess Chesebro, a.b. (*Oberlin Coll.*) 1963.

Eric Seth Chivian, a.b. 1964.

Albert Joseph Czaja, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Robert Kenneth Dolgoff, a.b. 1964.

Sarah Susan Donaldson, s.b. (*Univ. of Oregon*) 1961, b.m.s. (*Dartmouth Coll.*) 1966.

William Earl Dudley, 2d, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

George Avery Ellsworth, a.b. (*Kansas State Univ.*) 1965.

Robert Martin Ellsworth, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Morris Alan Fisher, a.b. (*Yale Univ.*) 1961.

Robert Arthur Frederick, s.b. (*Georgetown Univ.*) 1964.

Maurice Bennett Furlong, Jr., a.b. (*Fordham Univ.*) 1964.

Henry Byron Garrison, s.b. (*Yale Univ.*) 1962, b.a. (*Univ. of Oxford*) 1965.

Deborah Lois Baron Goldberg, a.b. 1964.

Ronald Hugh Goldenson, a.b. (*Princeton Univ.*) 1964.

Wayne Stuart Gradman, a.b. (*Univ. of Chicago*) 1964.

William Anthony Grana, a.b. 1964.

Garth Larsen Gregory, a.b., (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Arthur Victor Guarino, a.b. (*Coll. of the Holy Cross*) 1962.

Barbara Mara Hurwitz Harley, a.b. (*Bryn Mawr Coll.*) 1964.

David Thorme Harris, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Alan Brainard Hawk, a.b. (*Amherst Coll.*) 1964.

John Paull Hejinian, a.b. 1962.

Donald Wadsworth Hight, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Stephen Howard Hochschuler, a.b. (*Columbia Univ.*) 1964.

James Francis Holloran, Jr., a.b. (*Coll. of the Holy Cross*) 1964.

Frederick Albert Jakobiec, a.b. 1964.

Henry Slater Kahn, a.b. 1964.

John Stanton Kaiser, a.b (*Carleton Coll*). 1964, b.m.s. (*Dartmouth Coll.*) 1966.

Hatim Abdul-Kader Kanaaneh, a.b. (*Univ. of Hawaii*) 1964, s.b. in med. (*Univ. of South Dakota*) 1966.

John Kattwinkel, s.b. (*Rensselaer Polytechnic Inst.*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.

Jonathan Merrick Kelley, a.b. (*Princeton Univ.*) 1961.

Richard Philip Kluft, a.b. (*Princeton Univ.*) 1964.

Laurence Norman Kolonel, a.b. (*Willams Coll.*) 1964.

Michael Arthur LaCombe, a.b. (*Univ. of Rochester*) 1964.

David Edward Levy, a.b. 1963.

Jack George Livingston, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Robert Alan Lobis, a.b. (*Univ. of Pennsylvania*) 1964.

Alexander Marshall McBean, a.b. (*Yale Univ.*) 1964.

Richard Arlyn Marks, a.b. 1964 (1965).

Robert Alan Marshall.

Richard Jay Miller, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Deane Fremont Mosher, Jr., a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Alan Bruce Munro, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.

Jacob Calvin Nafziger, a.b. (*Lehigh Univ.*) 1963, s.b. in gen. sci. & math. (*ibid.*) 1963.

David Duane Oakes, a.b. 1963.

Donna Gottdiener Oakes, a.b. (*Wellesley Coll.*) 1963.

Olumuyiwa Olusegun Oredugba, a.b. (*DePauw Univ.*) 1964.

Frederick Kent Orkin, a.b. (*Bowdoin Coll.*) 1964.

George Warren Parker, a.b. (*Dartmouth Coll.*) 1963, b.m.s. (*ibid.*) 1964.

David Lee Pearle, a.b. (*Amherst Coll.*) 1964.

David George Perkins, a.b. 1963.

Michael Kagan Posner, s.b. (*Yale Univ.*) 1964.

Kenneth Michael Prager, a.b. (*Columbia Univ.*) 1964.

Vincent Francis Reale, a.b. (*Princeton Univ.*) 1963.

William Piper Reed, Jr., a.b. 1964.

Francis Eugene Reilly, a.b. (*Coll. of the Holy Cross*) 1960, a.m. (*Univ. of Wisconsin*) 1961, b.m.s. (*Dartmouth Coll.*) 1965.

Paul Andreas Reising, Jr., a.b. (*Coll. of the Holy Cross*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.

James Martin Rini, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Howard Thomas Robertson, 2d, a.b. (*Colgate Univ.*) 1964.

Robert Carver Rutherford, a.b. (*Univ. of Washington*) 1964.

Bruce Solomon Schneider, a.b. 1964.

Paul North Seward, a.b. (*Stanford Univ.*) 1964.

Edward Robert Shapiro, a.b. (*Yale Univ.*) 1962, a.m. (*Stanford Univ.*) 1966.

Stephen Arthur Sherman, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.

Thomas Andrew George Sos, a.b. (*Queens Coll. of The City Univ. of New York*) 1964.

Stuart Eliot Starr, a.b. (*Pomona Coll.*) 1963.
Edward Ralph Sun, a.b. 1963.
Ronald Eugene Tegtmeier, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.
John Marks Templeton, Jr., a.b. (*Yale Univ.*) 1962.
Jonathan Daniel Trobe, a.b. 1964.
Frederick Lindsley Trowbridge, a.b. (*Princeton Univ.*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.
Milton Clay Vaughan, a.b. (*Dartmouth Coll.*) 1964, b.m.s. (*ibid.*) 1966.
Jon Michael Brian Vore, a.b. (*Colby Coll.*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.
Samuel Porter Ward, a.b. (*Amherst Coll.*) 1959.
Andrew Thomas Weil, a.b. 1963 (1964).
John Paton Welch, a.b. 1964.
Ira Sar Yanowitz, a.b. 1964.
Joseph Kuhn Youngerman, a.b. (*Yale Univ.*) 1964.
John Anthony Zaia, a.b. (*Coll. of the Holy Cross*) 1964, b.m.s. (*Dartmouth Coll.*) 1966.
Peter Michael Zawadsky, Jr., a.b. (*Rutgers Univ.*) 1964.

M.D. cum laude for Thesis in a Special Field

Mitchell Henry Gail, a.b. 1963 (1962).
Melvyn Louis Lurie, a.b. (*Johns Hopkins Univ.*) 1963.
William Douglas Morain, a.b. (*Grinnell Coll.*) 1964.
Samuel Hardy Wilson, Jr., a.b. (*Univ. of Denver*) 1961.

M.D. cum laude

Arnold Michael Brier, a.b. (*Univ. of Chicago*) 1964.
James Frederick Burdick, s.b. (*Yale Univ.*) 1964.
Lincoln Chih-ho Chen, a.b. (*Princeton Univ.*) 1964.
Michael Victor Cohen, a.b. 1964.
Robert Barnes Colvin, s.b. (*Massachusetts Inst. of Technology*) 1964.
Lois Weyman Dow, a.b. (*Cornell Univ.*) 1964.
Michael Jack Droller, a.b. 1964.
Daniel Louis Funkenstein, a.b. (*Princeton Univ.*) 1964.
George Ansbach Goldberg, a.b. 1963.
Michael Ellis Goldberg, a.b. 1963.
Judith Kathleen Fisher Greenacre, a.b. 1964.

Stephen Bernard Guss, a.b. (*Yale Univ.*) 1964.
Nortin Marvin Hadler, a.b. (*Yale Univ.*) 1964.
Judith Lewis Herman, a.b. 1964.
Robert Alan King, a.b. (*Cornell Univ.*) 1963, b.a. (*Univ. of Oxford*) 1965.
Ronald Maxwell Krauss, a.b. 1964.
David Norman Levine, a.b. (*Yeshiva Univ.*) 1963.
Frederick Hugh Levine, a.b. (*Columbia Univ.*) 1964.
Edith Richards McNutt, a.b. (*Wellesley Coll.*) 1964.
Daniel Kent Onion, a.b. 1964.
Laird Gunn Patterson, a.b. (*Univ. of Kansas*) 1963.
Mark Allen Peppercorn, a.b. 1964.
Stephanie Hoyer Pincus, a.b. (*Reed Coll.*) 1964.
Thomas Dean Pollard, a.b. (*Pomona Coll.*) 1964.
Ronald Olrich Rieder, a.b. 1964.
Gary Lawrence Rosenberg, a.b. 1964.
Robert Woodard Sloane, Jr., s.b. (*Univ. of Michigan*) 1963.
William Webster Southmayd, a.b. 1964.
Nina Ellen Tolkoff, a.b. (*Cornell Univ.*) 1964.
Robert Elliot Wittes, a.b. 1964.
Gerald Lee Wolf, s.b. in med. (*Univ. of Nebraska*) 1962, s.m. (*ibid.*) 1964, ph.d. (*ibid.*) 1965.

M.D. magna cum laude for Thesis in a Special Field

Bruce Wilcox Chesebro, s.b. (*California Inst. of Technology*) 1963.

M.D. magna cum laude

Rodney Seichi Omachi, a.b. (*Stanford Univ.*) 1964.
Stephen Gary Pauker, a.b. 1964.
David Howard Sachs, a.b. 1963.
Kent William Salisbury, a.b. (*Dartmouth Coll.*) 1965, b.m.s. (*ibid.*) 1966.
Michael Ray Soper.
Ralph Marvin Steinman, b.sc. (*McGill Univ.*) 1963.

INTERNSHIPS

CLASS OF 1968

Unless otherwise noted all internships started July 1, 1968 for one year.

Name	*Hospital (and location)*	*Service*
Adair, Richard F.	University Hospitals of Cleveland, Cleveland, Ohio	Medicine
Adams, Patricia E. C.	Massachusetts General Hospital, Boston	Pediatrics
Anderson, Einar W.	Los Angeles County Harbor General Hospital, Torrance, California	Medicine
Arradondo, John E. R.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Ascher, Michael S.	Bellevue Hospital Center, New York, New York	Medicine
Aufranc. St. G. Tucker	University of Colorado Medical Center, Denver, Colorado	Surgery
Benz, Ronald R.	Massachusetts General Hospital, Boston	Pediatrics
Benz, Wendy G. C.	Arrangement pending	
Boerstling, Herbert	Massachusetts General Hospital, Boston	Pediatrics
Borden, Spencer, 4th	Children's Hospital Medical Center, Boston	Pediatrics
Breslow, Jan L.	Children's Hospital Medical Center, Boston	Pediatrics
Brier, Arnold M.	Boston City Hospital (Harvard Service), Boston	Medicine
Brownstein, Carlton S.	Beth Israel Hospital, Boston	Medicine
Bruggeman, Lewis L.	Los Angeles County Harbor General Hospital, Torrance, California	Medicine

Name	*Hospital (and location)*	*Service*
Bullock, John D.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Burdick, James F.	Massachusetts General Hospital, Boston	Surgery
Carpenter, Herschel A.	University of Washington Affiliated Hospitals, Seattle, Washington	Pathology
Cebrik, Michael M.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Chagnon, Suzanne E.	Children's Hospital Medical Center, Boston	Pediatrics
Chen, Lincoln C.	Massachusetts General Hospital, Boston	Medicine
Chesebro, Bruce W.	Stanford University Affiliated Hospitals, Palo Alto, California	Medicine
Chivian, Eric S.	Mount Zion Hospital and Medical Center, San Francisco, California	Rotating
Cohen, Michael V.	Boston City Hospital (Harvard Service), Boston	Medicine
Colvin, Robert B.	Massachusetts General Hospital, Boston	Surgery
Czaja, Albert J.	Philadelphia General Hospital (University of Pennsylvania Division), Philadelphia, Pennsylvania	Medicine
Dolgoff, Robert K.	Mount Zion Hospital and Medical Center, San Francisco, California	Rotating
Donaldson, Sarah S.	University of Washington Affiliated Hospitals, Seattle, Washington	Medicine
Dow, Lois J. W.	Bronx Municipal Hospital Center, New York, New York	Medicine
Droller, Michael J.	Bronx Municipal Hospital Center, New York, New York	Medicine
Dudley, William E., 2d	Philadelphia General Hospital (University of Pennsylvania Division), Philadelphia, Pennsylvania	Rotating

Name	*Hospital (and location)*	*Service*
Ellsworth, George A.	Mary Fletcher Hospital, Burlington, Vermont	Rotating
Ellsworth, Robert M.	U. S. Naval Hospital, Oakland, California	Rotating
Fisher, Morris A.	Cleveland Metropolitan General Hospital, Cleveland, Ohio	Medicine
Frederick, Robert A.	Medical College of Virginia, Richmond, Virginia	Surgery
Funkenstein, Daniel L.	Stanford University Affiliated Hospitals, Palo Alto, California	Medicine
Furlong, Maurice B., Jr.	University of Alabama Medical Center, Birmingham, Alabama	Medicine
Gail, Mitchell H.	Peter Bent Brigham Hospital, Boston	Medicine
Garrison, Henry B.	Yale-New Haven Medical Center, New Haven, Connecticut	Medicine
Goldberg, Deborah L. B.	Cambridge City Hospital, Cambridge	Rotating
Goldberg, George A.	Beth Israel Hospital, Boston	Medicine
Goldberg, Michael E.	Peter Bent Brigham Hospital, Boston	Medicine
Goldenson, Ronald H.	Peter Bent Brigham Hospital, Boston	Medicine
Gradman, Wayne S.	University of California Hospital, Los Angeles, California	Surgery
Grana, William A.	Barnes Hospital Group, St. Louis, Missouri	Surgery
Greenacre, Judith K. F.	Arrangement pending	
Gregory, Garth L.	Los Angeles County General Hospital, Los Angeles, California	Rotating
Guarino, Arthur V.	Massachusetts General Hospital, Boston	Pathology
Guss, Stephen B.	Beth Israel Hospital, Boston	Medicine
Hadler, Nortin M.	Massachusetts General Hospital, Boston	Medicine

Name	*Hospital (and location)*	*Service*
Harris, David T.	Philadelphia General Hospital (University of Pennsylvania Division), Philadelphia, Pennsylvania	Medicine
Hawk, Alan B.	Palo Alto-Stanford Hospital Center, Palo Alto, California	Pediatrics
Hejinian, John P.	San Francisco General Hospital, San Francisco, California	Rotating
Herman, Judith L.	Mount Auburn Hospital, Cambridge	Rotating
Hight, Donald W.	Peter Bent Brigham Hospital, Boston	Surgery
Hochschuler, Stephen H.	Boston City Hospital (Harvard Service), Boston	Surgery
Holloran, James F., Jr.	Los Angeles County Harbor General Hospital, Torrance, California	Rotating
Hurwitz, Barbara M.	Massachusetts General Hospital, Boston	Pediatrics
Jakobiec, Frederick A.	Stanford University Affiliated Hospitals, Palo Alto, California	Medicine
Kahn, Henry S.	Boston City Hospital (Boston University Service), Boston	Medicine
Kaiser, John S.	Massachusetts General Hospital, Boston	Pathology
Kanaaneh, Hatim A-K.	Harvard School of Public Health	
Kattwinkel, John	Duke Hospital, Durham, North Carolina	Pediatrics
Kelley, Jonathan M.	Boston City Hospital (Harvard Service), Boston	Surgery
King, Robert A.	Children's Hospital Medical Center, Boston	Pediatrics
Kluft, Richard P.	St. Luke's Hospital Center, New York, New York	Medicine
Kolonel, Laurence N.	Mount Zion Hospital and Medical Center, San Francisco, California	Rotating

Name	*Hospital (and location)*	*Service*
Krauss, Ronald M.	Boston City Hospital (Harvard Service), Boston	Medicine
LaCombe, Michael A.	Strong Memorial Hospital, Rochester, New York	Medicine
Levine, David N.	Beth Israel Hospital, Boston	Medicine
Levine, Frederick H.	Massachusetts General Hospital, Boston	Surgery
Levy, David E.	New York - Memorial Hospital, New York, New York	Medicine
Livingston, Jack G.	Los Angeles County General Hospital, Los Angeles, California	Medicine
Lobis, Robert A.	University of Chicago Hospitals and Clinics, Chicago, Illinois	Medicine
Lurie, Melvyn L.	Peter Bent Brigham Hospital, Boston	Surgery
Marks, Richard A.	Roosevelt Hospital, New York, New York	Surgery
Marshall, Robert A.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
McBean, A. Marshall	Boston City Hospital (Harvard Service), Boston	Medicine
McNutt, Edith G. R.	Mount Auburn Hospital, Cambridge	Rotating
Miller, Richard J.	University of California Hospital, Los Angeles, California	Medicine
Morain, William D.	Peter Bent Brigham Hospital, Boston	Surgery
Mosher, Deane F., Jr.	Duke Hospital, Durham, North Carolina	Medicine
Munro, Alan B.	North Carolina Memorial Hospital, Chapel Hill, North Carolina	Medicine
Nafziger, J. Calvin	Buffalo General Hospital - E. J. Meyer Memorial Hospital, Buffalo, New York	Medicine
Oakes, David D.	Peter Bent Brigham Hospital, Boston	Surgery
Oakes, Donna G.	Beth Israel Hospital, Boston	Surgery

Name	*Hospital (and location)*	*Service*
Omachi, Rodney S.	Massachusetts General Hospital, Boston	Medicine
Onion, Daniel K.	University of Washington Affiliated Hospitals, Seattle, Washington	Medicine
Oredugba, Olumuyiwa O.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Orkin, Frederick K.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Parker, George W.	Jewish Hospital of St. Louis, St. Louis, Missouri	Medicine
Patterson, Laird G.	H. C. Moffitt-University of California Hospital, San Francisco, California	Medicine
Pauker, Stephen G.	Boston City Hospital (Boston University Service), Boston	Medicine
Pearle, David L.	New York - Memorial Hospital, New York, New York	Medicine
Peppercorn, Mark A.	Beth Israel Hospital, Boston	Medicine
Perkins, David G.	University of Washington Affiliated Hospitals, Seattle, Washington	Rotating
Pincus, Stephanie F. H.	Boston City Hospital (Boston University Service), Boston	Medicine
Pollard, Thomas D.	Massachusetts General Hospital, Boston	Medicine
Posner, Michael K.	University of Chicago Hospitals and Clinics, Chicago, Illinois	Pediatrics
Prager, Kenneth M.	Presbyterian Hospital, New York, New York	Medicine
Reale, Vincent F.	Johns Hopkins Hospital, Baltimore, Maryland	Surgery
Reed, William P., Jr.	Palo Alto-Stanford Hospital Center, Palo Alto, California	Surgery
Reilly, Frank E.	Los Angeles County Harbor General Hospital, Torrance, California	Medicine

Name	*Hospital (and location)*	*Service*
Reising, Paul A., Jr.	University of Washington Affiliated Hospitals, Seattle, Washington	Rotating
Rieder, Ronald O.	Johns Hopkins Hospital, Baltimore, Maryland	Pediatrics
Rini, James M.	University of Minnesota Hospitals, Minneapolis, Minnesota	Surgery
Robertson, H. Thomas	King County Hospital, Seattle, Washington	Rotating
Rosenberg, Gary L.	Beth Israel Hospital, Boston	Medicine
Rutherford, R. Carver	U. S. Public Health Service Hospital	Medicine
Sachs, David H.	Massachusetts General Hospital, Boston	Surgery
Salisbury, Kent W.	Massachusetts General Hospital, Boston	Medicine
Schneider, Bruce S.	Mount Sinai Hospital, New York, New York	Medicine
Seward Paul N.	H. C. Moffitt-University of California Hospitals, San Francisco, California	Pediatrics
Shapiro, Edward R.	Beth Israel Hospital, Boston	Medicine
Sherman, Stephen A.	San Francisco General Hospital, San Francisco, California	Rotating
Sloane, Robert W., Jr.	Massachusetts General Hospital, Boston	Surgery
Soper, Michael R.	Massachusetts General Hospital, Boston	Medicine
Sos, Thomas A. G.	Montefiore Hospital and Medical Center, New York, New York	Rotating
Southmayd, William W.	Massachusetts General Hospital, Boston	Surgery
Starr, Stuart E.	Presbyterian Hospital, New York, New York	Pediatrics
Steinman, Ralph M.	Massachusetts General Hospital, Boston	Medicine
Sun, Edward R.	University of Colorado Medical Center, Denver, Colorado	Medicine

Name	*Hospital (and location)*	*Service*
Tegtmeier, Ronald E.	University of Colorado Medical Center, Denver, Colorado	Surgery
Templeton, John M., Jr.	Medical College of Virginia, Richmond, Virginia	Surgery
Tolkoff, Nina E.	Massachusetts General Hospital, Boston	Medicine
Trobe, Jonathan D.	Presbyterian - St. Luke's Hospital, Chicago, Illinois	Medicine
Trowbridge, Frederick L.	Massachusetts General Hospital, Boston	Pediatrics
Vaughan, M. Clay	Peter Bent Brigham Hospital, Boston	Surgery
Vore, Jon M. B.	New England Medical Center Hospitals, Boston	Pediatrics
Ward, Samuel P.	Barnes Hospital Group, St. Louis, Missouri	Pathology
Weil, Andrew T.	Mount Zion Hospital and Medical Center, San Francisco, California	Rotating
Welch, John P.	Massachusetts General Hospital, Boston	Surgery
Wilson, Samuel H., Jr.	National Institutes of Health	Research
Wittes, Robert E.	Beth Israel Hospital, Boston	Medicine
Wolf, Gerald L.	University of Nebraska Hospital, Omaha, Nebraska	Medicine
Yanowitz, Ira S.	University Hospitals of Cleveland, Cleveland, Ohio	Medicine
Youngerman, Joseph K.	Strong Memorial Hospital, Rochester, New York	Pediatrics
Zaia, John A.	St. Louis Children's Hospital, St. Louis, Missouri	Pediatrics
Zawadsky, Peter M.	North Carolina Memorial Hospital, Chapel Hill, North Carolina	Rotating

Where the name of the state is omitted, the state is Massachusetts.

MEDICAL SCHOOL STUDENTS
(as of registration September 1968)

Fourth Year Class (1969)

Ainslie, George William, Jr., A.B. (*Yale Univ.*) 1965. *Binghamton, N.Y.*

Allen, Jeffrey Charles, A.B. (*Oberlin Coll.*) 1965. *Livingston, N.J.*

Alpert, Joseph Stephen, A.B. (*Yale Univ.*) 1963. *New Haven, Conn.*

*Altman, Leonard Charles, A.B. (*Univ. of Pennsylvania*) 1965. [Harvard School of Dental Medicine]. *Flushing, N.Y.*

Arling, Bryan Jeremy, A.B. (*Univ. of Minnesota*) 1965. *Minneapolis, Minn.*

Asher, Ruth Ellen (*Wellesley Coll.*). *Los Angeles, Calif.*

*Bail, Richard Nelson, Jr., A.B. (*Bowdoin Coll.*) 1964, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Whitman*

Bartrum, Royal Jay, Jr., A.B. (*Carleton Coll.*) 1965. *Normal, Ill.*

Bean, Margaret Harvey, A.B.† (*Radcliffe Coll.*) 1965. *Iowa City, Iowa*

Bennett, William Ira, A.B. 1962. *Tacoma, Wash.*

*Berger, Phil Alan, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Montclair, N.J.*

Bettman, Thomas Coulter, A.B. (*Dartmouth Coll.*) 1965. *Cincinnati, Ohio*

Bissell, John Albert, A.B. (*Stanford Univ.*) 1964. *Saratoga, Calif.*

Bobroff, Lewis Martin (*Brooklyn Coll. of The City Univ. of New York*). *Brooklyn, N.Y.*

Boehm, Sharon Lynne, S.B. (*Univ. of Wisconsin*) 1965. *Itasca, Ill.*

*Botstein, Paula Moselle Buckholts, A.B. †(*Radcliffe Coll.*) 1965. [Wayne State Univ. School of Medicine]. *Ypsilanti, Mich.*

Boylston, Arthur William, 2d, A.B. (*Yale Univ.*) 1964. *Portland, Oregon*

‡ Admitted on the basis of three years' college work.
° Transferred to the second year class.
* Transferred to the third year class.
† Degree conferred by Harvard University.
+ Leave of absence first semester.
N.B. Where the college name is omitted, the college is Harvard; where the state is omitted, the state is Massachusetts.

Braden, William, 3d, A.B. 1965. *New York, N.Y.*
Brandling-Bennett, Anthony David, A.B. 1964. *Los Angeles, Calif.*
*Bratberg, Jerald Jerome, A.B. (*Augustana Coll.*) 1965. [Univ. of South Dakota School of Medicine]. *Irene, S.Dak.*
*Brooks, John Graham, 3d, A.B. 1964, B.M.S. (*Dartmouth Coll.*) 1966. [Dartmouth Medical School]. *Weston*
Brooks, Robert William, A.B. (*Williams Coll.*) 1965. *Paterson, N.J.*
Burney, Richard Edward, Jr., A.B. 1965. *Cleveland, Ohio*
Burr, Barbara Bendel Hertz, A.B. (*Swarthmore Coll.*) 1965. *New York, N.Y.*
Burr, Winthrop Ames, A.B. 1965. *Christiansted, St. Croix, V.I.*
*Bush, David Charles, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Washingtonville, Pa.*
Cannon, Walter Bradford, A.B. 1963. *Lincoln*
*Cecere, MaryAnn, A.B. †(*Radcliffe Coll.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Revere*
Cello, John Patrick, A.B. (*Providence Coll.*) 1965. *Cambria Heights, N.Y.*
Chang, Henry, S.B. (*Yale Univ.*) 1965. *New York, N.Y.*
Chessen, Douglas Howell, A.B. (*Amherst Coll.*) 1965. *Denver, Colo.*
*Chiappa, Keith Henry, A.B. 1965. [Oxford Univ. Medical School]. *Spanish Point, Bermuda*
Cloos, David Wilmot, A.B. (*Williams Coll.*) 1965. *Richmond Hill, N.Y.*
Cohen, Benjamin Emanuel, A.B. (*Columbia Univ.*) 1965. *Macon, Ga.*
Crane, Martin, A.B. (*Princeton Univ.*) 1965. *Williston Park, N.Y.*
Crichton, John Michael, A.B. 1964. *New Canaan, Conn.*
Dashe, Charles Kay, A.B. (*Univ. of Chicago*) 1965. *Gary, Ind.*
*DeCesare, Ronald Edward (*Johns Hopkins Univ.*), S.B. IN MED. (*Univ. of North Dakota*) 1967. [Univ. of North Dakota School of Medicine]. *Fargo, N.Dak.*
*DeFronzo, Ralph Anthony, Jr., S.B. (*Yale Univ.*) 1964, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Saugus*
*Donn, Richard, S.B. IN CHEM. (*Univ. of Vermont*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *New York, N.Y.*
Dos Reis, Leslie Jose, A.B. (*Williams Coll.*) 1965. *Rye, N.Y.*
Duvinsky, Joel, S.B. (*City Coll. of The City Univ. of New York*) 1965. *New York, N.Y.*
Eisen, Howard Jay, A.B. 1964. *Miami, Fla.*

*Everson, Lloyd Kermit, Jr., S.B. (*Univ. of North Dakota*) 1965, S.B. IN MED. (*ibid.*) 1967. [Univ. of North Dakota School of Medicine]. *Grafton, N.Dak.*

*Fee, Henry Jordan, A.B. (*State Univ. of Iowa*) 1965. [Univ. of South Dakota School of Medicine]. *Frankfort, S.Dak.*

Feibel, Robert Marks, A.B. (*Johns Hopkins Univ.*) 1965. *Cincinnati, Ohio*

*Feldman, Joel Joseph, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Great Neck, N.Y.*

Fernbach, Stephen Alton, A.B. (*Amherst Coll.*) 1965. *New York, N.Y.*

Frank, Gerald Warren, A.B. 1965. *Winthrop*

Fraser, David William, A.B. (*Haverford Coll.*) 1965. *George School, Pa.*

Freed, Curt Richard, A.B. 1965. *Euclid, Ohio*

Freeman, David Lewis, A.B. 1964. *Sherborn*

*Freeman, John Robert, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Kettering, Ohio*

Freeman, Thomas Stanley, A.B. 1964. *Glencoe, Ill.*

Friedman, Paul Aaron, A.B. (*Princeton Univ.*) 1964. *Baltimore, Md.*

Garrison, Penelope Knapp, A.B. †(*Radcliffe Coll.*) 1963. *Cambridge*

Gerber, Richard Borisow, A.B. (*Amherst Coll.*) 1965. *Washington, D.C.*

Goldmann, Donald Alan, A.B. 1964. *Trenton, N.J.*

Gordon, Jerold Stanley, S.B. (*Antioch Coll.*) 1965. *Pittsburgh, Pa.*

Graybeal, Robert Thomas, S.B. (*Duke Univ.*) 1965. *Marion, Va.*

Grillo, Peter James, A.B. (*Yale Univ.*) 1965. *Andover*

*Gutowski, Edward Paul, S.B. (*Univ. of North Dakota*) 1965, S.B. IN MED. (*ibid.*) 1967. [Univ. of North Dakota School of Medicine]. *Wishek, N.Dak.*

Guyton, David Lee, S.B. (*Univ. of Mississippi*) 1965. *Jackson, Miss.*

Hall, Stephen Vincent, A.B. 1965. *Champaign, Ill.*

Hallett, Mark, A.B. 1965. *Merion, Pa.*

Hanson, Charles William Davenport, Jr., AB. 1964. *New York, N.Y.*

*Harken, Laurel Dale Sillag, S.B. (*Denison Univ.*) 1965. [Western Reserve University School of Medicine]. *Cleveland Heights, Ohio*

Harper, Gordon Peacock, A.B. 1964. *Rochester, N.Y.*

Harrison, Michael Richard, A.B. (*Yale Univ.*) 1965. *Vancouver, Wash.*

*Henderson, James Roger, A.B. (*Bowdoin Coll.*) 1964, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Xenia, Ohio*

Herbert, Marshall Linton, A.B. (*Wesleyan Univ.*) 1964. *Gainesville, Fla.*

Hertzman, Marc, A.B. 1965. *Cincinnati, Ohio*

Heuser, John Edward, A.B. 1964. *Tulsa, Okla.*

*Hinkley, William Elliott, A.B. (*Bowdoin Coll.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Groveton, N.H.*

Hodes, David Samuel, A.B. (*Princeton Univ.*) 1963, B.A. (*Oxford Univ.*) 1965. *Manhasset, N.Y.*

Hoffer, Edward Peter, S.B. (*Massachusetts Inst. of Technology*) 1965. *Montreal, P.Q., Canada*

*Horner, Richard Jon, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Marlton, N.J.*

Howard, Terry Thomas, A.B. (*Columbia Univ.*) 1965. *Rutherford, N.J.*

Hyde, Thomas Prentice, S.B. (*Yale Univ.*) 1965. *Evanston, Ill.*

Jablecki, Charles Kasmir, A.B. 1965. *Rumford, R.I.*

Janeway, Charles Alderson, Jr., A.B. 1963. *Weston*

°Kahan, Morton Gerald, A.B. (*Princeton Univ.*) 1964. [Oxford Univ. Medical School]. *West Hartford, Conn.*

*Kahn, Felicia Hance, A.B. (*Univ. of California, Berkeley*) 1965. [State Univ. of New York Downstate Medical Center Coll. of Medicine]. *Palo Alto, Calif.*

*Kaiser, Richard Alan, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Newburgh, N.Y.*

Kanner, Steven Russell, A.B. 1965. *Massapequa Park, N.Y.*

*Kark, John Alexander, B.A. (*Oxford Univ.*) 1966. [Oxford Univ. Medical School]. *Oak Park, Ill.*

Kaslow, Richard Alan, A.B. (*Yale Univ.*) 1965. *Omaha, Nebr.*

Kolb, Jonathan Edward, A.B. 1965. *Providence, R.I.*

*Kramer, Robert Jeffrey, (*Union Coll.*), A.B. (*Stanford Univ.*) 1967. [Stanford Univ. School of Medicine]. *Mineola, N.Y.*

Krogstad, Donald John, A.B. (*Bowdoin Coll.*) 1965. *New Hyde Park, N.Y.*

*Kroll, Stephen Samuel, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Livingston, N.J.*

*Lamar, Judy Ann, A.B. †(*Radcliffe Coll.*) 1963, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Belmont*

Lange, Roger Frederick, A.B. 1965. *Evanston, Ill.*

Lemkin, Stephen Richard, A.B. 1965. *Lowell*

Leonardi, Howard Kevin, A.B. (*Yale Univ.*) 1965. *Swampscott*
Levine, Judith Ann, A.B. (*Swarthmore Coll.*) 1965. *New York, N.Y.*
Lewis, Brian Joel, A.B. (*Rice Univ.*) 1965. *Little Rock, Ark.*
Lewis, Randall Jeffrey, A.B. (*Yale Univ.*) 1965. *Taunton*
*Liang, Matthew Heng, A.B. (*Johns Hopkins Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Baltimore, Md.*
Liteplo, Merrill Gerald, S.B. (*Manhattan Coll.*) 1965. *Brooklyn, N.Y.*
*Little, John William, 3d, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Decatur, Ill.*
*Livingston, Philip Ordway, A.B. (*Princeton Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *New Canaan, Conn.*
Long, Michael Carroll, S.B. (*Massachusetts Inst. of Technology*) 1965. *Salisbury, Md.*
Looker, Andrew Noah, A.B. 1964. *New York, N.Y.*
*Macdonald, John Stephen, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Bronxville, N.Y.*
McLeod, Bruce Cameron, A.B. (*Univ. of Texas*) 1965. *Arkansas City, Kans.*
Marinoff, Gerald Paul, A.B. (*Columbia Univ.*) 1965. *Brooklyn, N.Y.*
*Markworth, James Warren, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Fairview Park, Ohio*
Martin, David Hubert, A.B. (*Univ. of Kansas*) 1965. *Coffeyville, Kans.*
Mattingly, Patrick Hayne, A.B. (*Coll. of the Holy Cross*) 1964. *Bethesda, Md.*
Mayer, Robert James, A.B. (*Williams Coll.*) 1965. *New Hyde Park, N.Y.*
Mieth, Werner Christian Joseph, A.B. 1965. *Union, N.J.*
*Miles, Richard Royce, S.B. (*Univ. of Nebraska*) 1964, M.S., (*ibid.*) 1967. [Univ. of Nebraska Coll. of Medicine]. *Lincoln, Nebr.*
Miller, John Bruce, A.B. 1965. *Maywood, Ill.*
Mitchell, Beverly Shriver, A.B. (*Smith Coll.*) 1965. *Auburndale*
Mitchell, Michael Ernst, A.B. (*Princeton Univ.*) 1965. *Lincoln Park, N.J.*
*Mitchell, Tamara Marie Thabes, A.B. (*Univ. of Chicago*) 1965. [Univ. of Chicago School of Medicine]. *Brainerd, Minn.*
*Montgomery, Stephen Laurence, S.B. (*Boston Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Harrisburg, Pa.*

Murphy, Frank Lloyd, Jr., A.B. 1965. *Webster Groves, Mo.*

*Nisula, Bruce Carl, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Simsbury, Conn.*

*Noe, Joel Mark, A.B. 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Marblehead*

*Osborne, Barbara Elliot Mallinckrodt, A.B. †(*Radcliffe Coll.*) 1967, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *St. Louis, Mo.*

*Osborne, David Paul, Jr., A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Bethesda, Md.*

Oyer, David Smith, S.B. (*Univ. of Rochester*) 1964. *Rochester, N.Y.*

*Passero, Michael Anthony, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Newark, N.J.*

Peterson, Douglas Bergen, A.B. (*Dartmouth Coll.*) 1965. *Aurora, Ill.*

Petrucelli, Rocco Joseph, 2d, A.B. (*Yale Univ.*) 1965. *Meriden, Conn.*

Podell, Richard Neal, A.B. (*Amherst Coll.*) 1964. *Malverne, N.Y.*

Quint, Alan Steven, A.B. 1965. *Woodbridge, N.J.*

Ré, Richard Noel, A.B. 1965. *Palisade, N.J.*

Redfern, Anne Brennan, A.B.† (*Radcliffe Coll.*) 1965. *Cincinnati, Ohio*

*Reece, Richard William, A.B. (*Princeton Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Troy, N.Y.*

*Reese, Richard Ellsworth, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Gloversville, N.Y.*

Rein, Michael Frank, A.B. 1965. *New York, N.Y.*

Richards, Keith Chirgwin, A.B. (*Yale Univ.*) 1965. *Akron, Ohio*

*Rogers, Malcolm Porteous, A.B. (*Yale Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *New York, N.Y.*

Rottenberg, David Allan, A.B. (*Univ. of Michigan*) 1963, M.SC. (*Cambridge Univ.*) 1965. *Detroit, Mich.*

*Rudy, Steven Michael, A.B. 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Belmont*

Schlenker, James David, A.B. 1965. *Peru, Ill.*

Schutz, James Scott, A.B. (*Yale Univ.*) 1965. *New York, N.Y.*

Schwartz, Ronald Harris, A.B. (*Cornell Univ.*) 1965. *Kenmore, N.Y.*

Seaman, William Ewing, A.B. (*Princeton Univ.*) 1964. *East Lansing, Mich.*

Silvio, Joseph Rocco, A.B. (*Cornell Univ.*) 1965. *Elizabeth, N.J.*

Snyder, Howard McCrum, 3d, A.B. (*Princeton Univ.*) 1965. *Atlanta, Ga.*

Spitz, Leslie Mike, A.B. 1965. *Wilmette, Ill.*
Stanberry, Mark Chauncy, S.B. (*Univ. of Arizona*) 1964. *Tucson, Ariz.*
Stelovich, Steve Dennis, A.B. 1963. *Salt Lake City, Utah*
Stephens, Joseph William, 3d, S.B. (*Emory Univ.*) 1965. *Macon, Ga.*
*Stopford, Frederick Woodhall, A.B. (*Dartmouth Coll.*) 1965, B.M.S. (*ibid.*) 1967. [Dartmouth Medical School]. *Fort Lauderdale, Fla.*
Stulbarg, Michael Stewart, S.B. (*Massachusetts Inst. of Technology*) 1964. *Cincinnati, Ohio*
*Swanson, Michael Warren, A.B. (*Wesleyan Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Ruxton, Md.*
Tesar, Paul Louis, B.S. IN E.E. (*Univ. of Massachusetts*) 1964. *Flushing, N.Y.*
Thibault, George Edwin, Jr., A.B. (*Georgetown Univ.*) 1965. *Chittenango, N.Y.*
Thomas, Elizabeth Walke, A.B.† (*Radcliffe Coll.*) 1965. *Chevy Chase, Md.*
Tracy, David Mears, A.B. (*Yale Univ.*) 1965. *Pittsfield*
Tuffli, Charles Frederick, Jr., A.B. (*Yale Univ.*) 1965. *Menlo Park, Calif.*
*Ungerer, Roland Hart, A.B. (*Dartmouth Coll.*) 1964, B.M.S. (*ibid*) 1966. [Dartmouth Medical School]. *Stratford, Conn.*
Vickery, Donald Michael, A.B. 1965. *Vienna, Va.*
*Viglotti, Joseph Francis, A.B. (*Johns Hopkins Univ.*) 1965, B.M.S. (*Dartmouth Coll.*) 1967. [Dartmouth Medical School]. *Springfield, Pa.*
Walsh, John Vincent, Jr., A.B. (*Boston Coll.*) 1964. *Buffalo, N.Y.*
Workman, Robert Jay, A.B. (*Princeton Univ.*) 1964. *Staten Island, N.Y.*
Yurcisin, Daniel, A.B. (*Princeton Univ.*) 1965. *Roebling, N.J.*

Third Year Class (1970)

Ain, Jonathan David, A.B. (*Cornell Univ.*) 1966. *New York, N.Y.*
Akins, Cary Willard, A.B. 1966. *Red Wing, Minn.*

° Transferred to the second year class.
* Transferred to the third year class.
† Degree conferred by Harvard University.
N.B. Where the college name is omitted, the college is Harvard; where the state is omitted, the state is Massachusetts.

Albeck, Joseph Henry, A.B. (*Columbia Univ.*) 1966. *Brooklyn, N.Y.*
Anane-Sefah, John Camara (*Yale Univ.*) *Accra, Ghana*
Anderson, Frank Hughes, A.B. 1966. *Berwyn, Penna.*
Anderson, Thomas McDowell, Jr., A.B. (*Princeton Univ.*) 1966. *Arlington, Va.*
Angoff, Gerald Harvey, A.B. 1966. *Newton Centre*
Applegate, Clarence William, A.B. (*Oberlin Coll.*) 1966. *Tucson, Ariz.*
*Arons, Elissa Lynne Beron, A.B. (*Brown Univ.*) 1966. [Yale Univ. School of Medicine]. *Margate, N.J.*
Ault, Kenneth Ashley, S.B. (*Massachusetts Inst. of Technology*) 1966. *Denver, Colo.*
Barkin, Roger Michael, A.B. (*Brandeis Univ.*) 1966. *Paris, France*
*Beattie, Brian Albert, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Lyndonville, Vt.*
*Belkin, Stuart Clyde, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *New Rochelle, N.Y.*
Bennett, Michael Isaiah, A.B. 1966. *Toronto, Ont., Canada*
Bennion, Lynn Jacobsen, A.B. 1966. *Palo Alto, Calif.*
Benson, James Wood, Jr., A.B. (*Stanford Univ.*) 1966. *Aptos, Calif.*
Berv, Kenneth Robert, A.B. (*Yale Univ.*) 1966. *Oceanside, N.Y.*
Blumenthal, Eileen, A.B. †(*Radcliffe Coll.*) 1966. *Oceanside, N.Y.*
Boetcher, David Allen, A.B. (*Princeton Univ.*) 1966. *Evanston, Ill.*
Bours, William Alsop, IV, A.B. (*Stanford Univ.*) 1966. *Wilmington, Del.*
Breed, Robert Huntington, 2d, A.B. (*Yale Univ.*) 1966. *Poughkeepsie, N.Y.*
Breuer, Anthony Carl, A.B. (*Princeton Univ.*) 1965. *Princeton, N.J.*
Briggs, Josephine Elizabeth Pashler, A.B. †(*Radcliffe Coll.*) 1966. *Schenectady, N.Y.*
Brondfield, Eric Steven, A.B. 1966. *Roslyn Heights, N.Y.*
Brooks, Benjamin Rix, A.B. 1965. *Merion Station, Pa.*
Browne, Kay Frost Shaw, A.B. (*Mt. Holyoke Coll.*) 1966. *Cranbury, N.J.*
*Bruner, Kenneth William Jr., A.B. (*Coll. of the Holy Cross*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Norfolk, Nebr.*
Bulkley, Bernadine Patricia Healy, A.B. (*Vassar Coll.*) 1965. *Long Island City, N.Y.*
Bulkley, Gregory Bartlett, A.B (*Princeton Univ.*) 1965. *Winnetka, Ill.*

Burns, William Holmes, S.B. (*Yale Univ.*) 1965. *Macon, Ga.*
Camfield, Peter Robert, B.A. (*Queen's Univ.*) 1966. *Ottawa, Ont., Canada*
Cannon, Woodward, A.B. 1966. *Lincoln*
Carey, Edmund Lawrence, Jr., A.B. (*Coll. of the Holy Cross*) 1965. *Milton*
Clarke, Lewis John, A.B. 1966. *Buffalo, N.Y.*
*Clarke, Thomas Eliason, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Wellesley*
Cohen, Philip, A.B. (*Columbia Univ.*) 1966. *Brooklyn, N.Y.*
*Coppeto, James Robert, A.B. (*Yale Univ.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Waterbury, Conn.*
°Cox, Malcolm Charles Leslie, B.SC. (*Univ. of the Witwatersrand*) 1965, B.SC. (*ibid.*) 1966, M.SC. (*ibid.*) 1967. [*Univ. of the Witwatersrand Medical School*]. *Johannesburg, South Africa*
Crockett, David Shan, A.B. (*Cornell Univ.*) 1966. *Cincinnati, Ohio*
*Dalton, Timothy Vincent (*Univ. of Pennsylvania*), B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Pequannock, N.J.*
Davidoff, Ira Gordon, S.B. (*Massachusetts Inst. of Technology*) 1966. *Flushing, N.Y.*
Davies, John Anthony Kent, A.B. 1965. *Brookline*
Davis, Charles Abraham, S.B. (*Massachusetts Inst. of Technology*) 1966. *Greenburg, Penna.*
Dellinger, Evan Patchen, A.B. (*Swarthmore Coll.*) 1966. *Hampton, N.J.*
*Dietz, Patrick Allan, A.B. (*Coll. of the Holy Cross*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Poughkeepsie, N.Y.*
Di Giacinto, George Vincent, A.B. (*Columbia Univ.*) 1966. *Yonkers, N.Y.*
Dixon, Jonathan Allan, A.B. 1966. *Farmington, Conn.*
*Dodes, Lance Meredith, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Forest Hills, N.Y.*
Duhme, David Ware, A.B. 1966. *St. Louis, Mo.*
Emans, John Barker, 2d, A.B. 1966. *Randolph, Vt.*
Emans, Sarah Jean Herriot, A.B. †(*Radcliffe Coll.*) 1966. *New York, N.Y.*
Ericsson, Charles Derwin, A.B. 1966. *Fairfax, Va.*
Fareed, George Carr, A.B. (*Univ. of California, Berkeley*) 1966. *Los Angeles, Calif.*

Ferber, Richard Alan, A.B. 1965. *Chicago, Ill.*
Fisher, Richard Ian (*Harvard Univ.*). *Coral Gables, Fla.*
*Fogelson, Frederick Stephen, A.B. (*Johns Hopkins Univ.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Baltimore, Md.*
Folland, Edward Denton, A.B. (*Yale Univ.*) 1966. *Salt Lake City, Utah*
Fredlund, Paul Noel, A.B. 1966. *Minneapolis, Minn.*
*Fritz, Robert Turnbull, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Chappaqua, N.Y.*
Gerson, Donald Edward, A.B. 1965. *Dayton, Ohio*
*Gharib, Mohsen, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Tehran, Iran*
*Goldberg, Ronald Floyd, A.B. (*Boston Univ.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Milton*
Goldman, Mitchell Howard, A.B. (*Brandeis Univ.*) 1966 *Quincy*
Goldsmith, George Hale, Jr., A.B. (*Washington Univ.*) 1966. *New Orleans, La.*
Good, Michael Ian, A.B. (*Univ. of Minnesota*) 1966. *New Ulm, Minn.*
Goodman, William Samuel, A.B. 1966. *Babylon, N.Y.*
Gottesman, Michael Marc, A.B. 1966. *Flushing, N.Y.*
Green, Mark Ronald, A.B. 1966. *South Norwalk, Conn.*
Greenblatt, David John, A.B. (*Amherst Coll.*) 1966. *Newton*
Groat, Robert Lanier, S.B. (*Davidson Coll.*) 1966. *Greensboro, N.C.*
Gross, Peter Lloyd, A.B. 1966. *Swampscott*
Gunderson, Paul Einar, A.B. 1966. *Enumclaw, Wash.*
Gustavson, Edward Ernest, A.B. (*Gustavus Adolphus Coll.*) 1966. *Northbrook, Ill.*
Hafner, Daniel James, A.B. (*Boston Univ.*) 1966. *Newell, S.D.*
Helpern, Joan Marilyn, A.B. †(*Radcliffe Coll.*) 1966. *New York, N.Y.*
Herzog, James Michael, A.B. 1965. *Lockport, N.Y.*
*Hopkins, Timothy Bruce, A.B. (*Univ. of South Dakota*) 1967. [Univ. of South Dakota School of Medicine]. *Rapid City, S. Dak.*
Howell, Stephen Barnard, A.B. (*Univ. of Chicago*) 1966. *Lexington*
*Hubbard, Francis Edward, S.B. (*Boston Coll.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Brooklyn, N.Y.*
Hyman, Frederic Evan, A.B. (*Columbia Univ.*) 1966. *Brooklyn, N.Y.*
Irwin, Charles Fayette, 3d, A.B. 1966. *Tipp City, Ohio*
Jamison, Wallace Glenn, S.B. (*Westminster Coll.*) 1966. *New Wilmington, Penna.*

°Kark, Elizabeth Coe Cohn, A.B. (*Mount Holyoke Coll.*) 1964, B.A. (*Oxford Univ.*) 1967. [Oxford Univ. Medical School]. *New York, N.Y.*

*Keane, William Martin, S.B. (*Boston Coll.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Medford*

Kern, David Evans, A.B. (*Princeton Univ.*) 1966. *Cincinnati, Ohio*

Khoury, George, Jr., A.B. (*Princeton Univ.*) 1965. *Allentown, Pa.*

*Kligfield, Paul David, A.B. (*Queens Coll. of The City Univ. of New York*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Malba, N.Y.*

Kopf, Gary Sheldon, A.B. (*Columbia Univ.*) 1966. *Plainview, N.Y.*

Kulczycki, Anthony, Jr., A.B. (*Princeton Univ.*) 1966. *Easton, Penna.*

Landres, Richard Terry, A.B. (*Stanford Univ.*) 1966. *Encino, Calif.*

Lanken, Paul Nicholas, A.B. 1966. *Nutley, N.J.*

Levine, Robert Aaron, A.B. (*Yale Univ.*) 1965. *Waterville, Maine*

Lieber, Michael Maurice, A.B. 1966. *Arlington, Va.*

Lieff, Jonathan David, A.B. (*Yale Univ.*) 1966. *Newark, N.J.*

Lipkin, Mack, Jr., A.B. 1965. *New York, N.Y.*

*Lockhart, Jack McKamey, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Connersville, Ind.*

*Lokey, Hamilton Jr., A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Atlanta, Ga.*

Lozner, Eugene Culver, A.B. (*Amherst Coll.*) 1966. *Syracuse, N.Y.*

Mackenzie, Thomas Brooke, A.B. 1966. *Denver, Colo.*

*Mantos, John Joseph, S.B. (*Boston Coll.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *West Roxbury*

*McLaughlin, Michael Howard, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Minneapolis, Minn.*

Meyers, Joel David, A.B. (*Dartmouth Coll.*) 1966. *Houston, Texas*

Millis, Michael Brian, A.B. 1966. *Toledo, Ohio*

Morse, Herbert Carpenter, 3d, A.B. (*Oberlin Coll.*) 1965. *La Grange, Ill.*

°Munford, Robert Sims, 3d, A.B. (*Vanderbilt Univ.*) 1964, B.A. (*Oxford Univ.*) 1967. [Oxford Univ. Medical School]. *Jackson, Miss.*

Noble, Robert Michael Courtney, B.SC. (*Univ. of British Columbia*) 1966. *Vancouver, B.C., Canada*

Noseworthy, John, Jr., S.B. (*Bates Coll.*) 1965. *Plymouth, N.H.*

Oster, Charles Nelson, S.B. (*Univ. of Wisconsin*) 1966. *Beloit, Wisc.*

Ottesen, Eric Albert, A.B. (*Princeton Univ.*) 1965. *Cincinnati, Ohio*

Pearlman, Alan Stuart, A.B. (*Williams Coll.*) 1966. *Rochester, N.Y.*
Peppercorn, Margaret Tova Bessin, A.B. †(*Radcliffe Coll.*) 1966. *New York, N.Y.*
Pierce, Ralph Wendell, A.B. 1966. *St. Louis, Mo.*
Pock, Randolph William, S.B. (*Allegheny Coll.*) 1966. *Coraopolis, Penna.*
°Polonsky, Derek Colin, B.SC. (*Univ. of the Witwatersrand*) 1966. [Univ. of the Witwatersrand Medical School]. *Johannesburg, South Africa*
*Prior, Roderick Everett, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Wausau, Wis.*
Raaf, John Hart, A.B. 1963, DR.PHIL. (*Univ. of Oxford*) 1966. *Portland, Oregon*
Rabb, James Mark, A.B. 1966. *Cambridge*
Raskin, Stephen Paul, A.B. (*Brandeis Univ.*) 1966. *Silver Spring, Md.*
*Reed, John Bratlie, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Portland, Oregon*
*Reinisch, John Ferdinand, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Holyoke*
Ribner, Bruce Steven, A.B. (*Princeton Univ.*) 1966. *Brooklyn, N.Y.*
Richardson, John Marshall, A.B. 1966. *Tyler, Texas*
Robinson, Richard Allen, A.B. (*Rutgers Univ.*) 1966. *Levittown, Penna.*
Romm, Fredric Jay, A.B. (*Columbia Univ.*) 1966. *Brooklyn, N.Y.*
Rosenfeld, Alvin A., A.B. (*Cornell Univ.*) 1966. *Brooklyn, N.Y.*
Rosenthal, Susan Nancy, A.B. †(*Radcliffe Coll.*) 1966. *Tenafly, N.J.*
Ross, Michael Elliot, A.B. (*Yale Univ.*) 1966. *Portland, Conn.*
*Rymzo, Walter Thomas, Jr., A.B. (*Johns Hopkins Univ.*) 1965, M.MED.SCI. (*Rutgers Medical School*) 1968. [Rutgers Medical School]. *Brooklyn, N.Y.*
Sandberg, Glenn Willard, Jr., A.B. (*Columbia Univ.*) 1966. *Denver, Colo.*
*Saunders, Andrew Peter, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Baltimore, Md.*
Shelton, James Houston, A.B. 1966. *Dallas, Texas*
Simmons, Jeffrey Law, A.B. 1966. *Marblehead*
Simson, Michael Byron, A.B. 1966. *Grosse Pointe, Mich.*
Smith, Howard Gary, A.B. (*Princeton Univ.*) 1966. *Pittsburgh, Penna.*
Soll, Andrew H., A.B. (*Pomona Coll.*) 1966. *Los Angeles, Calif.*
Solomons, Noel Willis, A.B. 1966. *Cambridge*

Stein, Richard Steven, A.B. 1966. *Lincolnwood, Ill.*

Stevens, Rose Marie, A.B. (*Manhattanville Coll. of the Sacred Heart*) 1966. *Rochester, Mich.*

*Taylor, John William, A.B. (*Johns Hopkins Univ.*) 1966, B.M.S. (*Dartmouth Coll.*) 1968. [Dartmouth Medical School]. *Baltimore, Md.*

Tenney, James Hugh, A.B. 1966. *Briarcliff Manor, N.Y.*

*Thurer, Robert Lee, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Hicksville, N.Y.*

Trafton, Peter Grier, A.B. (*Yale Univ.*) 1965. *Auburn, Maine*

°Tucker, Robert Wilson, 3d, A.B. (*Dartmouth Coll.*) 1963, B.A. (*Oxford Univ.*) 1967. [Oxford Univ. Medical School]. *Columbus, Ohio*

*Villa, Luis, S.B. (*Univ. of Miami*) 1966, M.MED.SCI. (*Rutgers Medical School*) 1968. [Rutgers Medical School]. *Miami, Fla.*

*Wade, Philip Hamel, A.B. (*Dartmouth Coll.*) 1966, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *New Canaan, Conn.*

*Walkley, Edward Ingersoll, A.B. (*Dartmouth Coll.*) 1967, B.M.S. (*ibid.*) 1968. [Dartmouth Medical School]. *Darien, Conn.*

Warren, John Windiate, A.B. (*Univ. of Michigan*) 1966. *Wichita, Kans.*

Weens, Joan Harriet, A.B. †(*Radcliffe Coll.*) 1966. *Atlanta, Ga.*

Weiler, Mary Margaret, A.B. (*Vassar Coll.*) 1966. *Burt, N.Y.*

Weissman, Jack Burton, A.B. (*New York Univ.*) 1966. *Brooklyn, N.Y.*

Williams, Sankey Vaughan, A.B. (*Princeton Univ.*) 1966. *Nicholasville, Ky.*

Wyler, David John, A.B. (*Brown Univ.*) 1966. *Scarsdale, N.Y.*

Yee, Robert Donald, A.B. 1966. *San Francisco, Calif.*

Second Year Class (1971)

Abbott, Arthur Travis, A.B. (*Univ. of North Carolina*) 1967. *Chapel Hill, N.C.*

Ablett, Charles Timothy, A.B. (*Grinnell Coll.*) 1967. *Fort Huachuca, Ariz.*

° Transferred to the second year class.
† Degree conferred by Harvard University.
N.B. Where the college name is omitted, the college is Harvard; where the state is omitted, the state is Massachusetts.

Alexander, Judith Lee, A.B. †(*Radcliffe Coll.*) 1967. *New York, N.Y.*
Allen, Robert Paul, S.B. (*Allegheny Coll.*) 1967. *Kingston, N.Y.*
Bahr, Robert Lawrence, A.B. (*Williams Coll.*) 1967. *Manhasset, N.Y.*
Baker, Robert Alan, A.B. (*Dartmouth Coll.*) 1967. *Cleveland, Ohio*
Banks, Peter Murray, A.B. (*Williams Coll.*) 1967. *Quincy*
Bear, David Michael, A.B. 1965. *Akron, Ohio*
Beart, Robert Woodward, Jr., A.B. (*Princeton Univ.*) 1967. *Park Ridge, Ill.*
Berson, Frank Gerald, A.B. (*Yale Univ.*) 1967. *Chelsea*
Billings, John Andrew, A.B. (*Amherst Coll.*) 1967. *Los Angeles, Calif.*
Binder, Andrew Steven, A.B. (*Williams Coll.*) 1967. *Teaneck, N.J.*
Boey, John Hoong, A.B. (*Princeton Univ.*) 1967. *Holliswood, N.Y.*
Boger, William Pierce, 3d, A.B. (*Amherst Coll.*) 1967. *Wayne, Pa.*
Burch, John William, S.B. IN CHEM. (*Univ. of Michigan*) 1967. *Framingham*
Burke, Donald Scott, A.B. (*Western Reserve Univ.*) 1967. *Novelty, Ohio*
Carmel, Richard John, A.B. (*Univ. of California, Berkeley*) 1966. *Los Angeles, Calif.*
Cassimatis, Emmanuel George, A.B. (*Univ. of Chicago*) 1967. *Athens, Greece*
Chapman, Robert Sedgwick, A.B. 1966. *Darien, Conn.*
Charlton, Valerie Eden, A.B. †(*Radcliffe Coll.*) 1967. *Bronx, N.Y.*
Chase, John Samuel, A.B. 1967. *Waban*
Christiansen, John Merrill, A.B. 1967. *Salt Lake City, Utah*
°Clark, William Mackey, A.B. (*Davidson Coll.*) 1966. [Oxford Univ. Medical School]. *Charlotte, N.C.*
Compeau, Phillip Edward Charles, A.B. (*Univ. of Rochester*) 1967. *Rochester, N.Y.*
Cooper, Gale Susan, A.B. (*Smith Coll.*) 1967. *White Plains, N.Y.*
Craig, William Robert, A.B. (*Univ. of Oregon*) 1964, A.M. 1967. *Sacramento, Calif.*
Crofoot, David Dean, A.B. (*Stanford Univ.*) 1967. *Omaha, Nebr.*
Curd, John Gary, A.B. (*Princeton Univ.*) 1967. *Golden, Colo.*
Donaldson, Magruder Craighead, A.B. 1966. *Lincoln*
Duffy, David Lee, A.B. (*Amherst Coll.*) 1967. *Port Washington, N.Y.*
Eron, Lawrence Joseph, A.B. (*Princeton Univ.*) 1966. *Millburn, N.J.*
Feldman, George Bernard, S.B. (*Massachusetts Inst. of Technology*) 1967. *Union, N.J.*

Finberg, Harris Jay, A.B. (*Brown Univ.*) 1967. *Providence, R.I.*
Fineberg, Harvey Vernon, A.B. 1967. *Pittsburgh, Pa.*
Fisher, Charles Paul, A.B. 1967. *Falls Church, Va.*
Fishman, Robert Stephen, A.B. (*Tufts Univ.*) 1967. *Teaneck, N.J.*
Fossum, Jane Elizabeth, A.B. (*Vassar Coll.*) 1967. *Fargo, N.Dak.*
Frisch, Lawrence Edward, A.B. (*Reed Coll.*) 1967. *Portland, Ore.*
Fuller, Arlan Frank, Jr., A.B. (*Bowdoin Coll.*) 1967. *Melrose*
Gilchrest, Barbara Ann Desmond, S.B. (*Massachusetts Inst. of Technology*) 1967. *Rye, N.Y.*
Girshon, Deanna P., A.B. (*Rutgers Univ., Newark*) 1965. *Jersey City, N.J.*
Glass, Allan Richard, A.B. 1967. *Fairfield, Conn.*
Goldman, Mark Robert, S.B. (*Massachusetts Inst. of Technology*) 1967. *Pittsburgh, Pa.*
Goodfellow, Robin Irene, A.B. (*Western Reserve Univ.*) 1967. *Yellow Springs, Ohio*
Goodson, William Hammack, 3d, A.B. (*Univ. of Missouri*) 1967. *Kansas City, Mo.*
Goodwin, James Simeon, A.B. (*Amherst Coll.*) 1967. *Washington, D.C.*
Gould, Robert Mark, A.B. (*Brown Univ.*) 1967. *Great Neck, N.Y.*
Graves, Howard Christian, A.B. (*Stanford Univ.*) 1966. *Salt Lake City, Utah*
Graze, Peter Robert, S.B. (*Tufts Univ.*) 1967. *Jamaica, N.Y.*
Greenberger, Joel Steven, A.B. (*Columbia Univ.*) 1967. *Pittsburgh, Pa.*
Guyton, Robert Allan, S.B. (*Univ. of Mississippi*) 1967. *Jackson, Miss.*
Hamilton, John David, A.B. (*Princeton Univ.*) 1966. *Arlington, Va.*
Hansbrough, John Fenwick, S.B. (*Univ. of Wisconsin*) 1967. *Madison, Wisc.*
Hashimoto, Frederick, S.B. (*Yale Univ.*) 1967. *Chicago, Ill.*
Haynes, Ormond Lee, Jr., A.B. (*Williams Coll.*) 1967. *Fairmont, W.Va.*
Hickman, Janet Karen Gratner, S.B. (*Michigan State Univ.*) 1967. *Mankato, Minn.*
Hickman, Robert Edward, S.B. (*Univ. of Illinois*) 1967. *Benton, Ill.*
Hughes, John Boland, A.B. (*Yale Univ.*) 1967. *Haverford, Pa.*
°Insel, Lola Sara Steinbaum, S.B. (*Univ. of Michigan*) 1967. [Stanford Univ. School of Medicine]. *Southfield, Mich.*
Janicki, Paul Clement, S.B. (*Marquette Univ.*) 1967. *Elm Grove, Wisc.*
Jones, Frederick Lewis, A.B. (*Univ. of Virginia*) 1967. *Mt. Lebanon, Pa.*

Jones, George Thomas, A.B. 1967. *Ravenna, Ohio*
Karpinski, Richard Henry Stephen, S.B. (*St. Joseph's Coll., Pennsylvania*) 1967. *Philadelphia, Pa.*
Kempf, Raymond Andrew, A.B. (*Fordham Univ.*) 1966. *Utica, N.Y.*
Kenny, Peter Charles, 3d, S.B. (*Providence Coll.*) 1967. *Great Neck, N.Y.*
Kissel, John Hubert, S.B. (*Georgetown Univ.*) 1967. *St. Louis, Mo.*
Klein, Robert Stephen, A.B. (*Columbia Univ.*) 1967. *Jamaica, N.Y.*
Kolff, Cornelis Albert, S.B. (*Allegheny Coll.*) 1967. *Salt Lake City, Utah*
Koopman, William James, 3d, A.B. (*Washington and Jefferson Coll.*) 1967. *Knowle, Warwickshire, England*
Landis, Dennis Michael Doyle, A.B. 1967. *Portuguese Bend, Calif.*
Lange, Vladimir, A.B. (*New York Univ.*) 1967. *New York, N.Y.*
Lease, John Richard, S.B. (*Yale Univ.*) 1966. *Somerset, Pa.*
Lebwohl, David Julien, A.B. (*Yale Univ.*) 1967. *Ossining, N.Y.*
Leslie, Bruce Robert, A.B. 1967. *Brooklyn, N.Y.*
Lewis, Collins Everett, A.B. (*Rutgers Univ., New Brunswick*) 1967. *North Brunswick, N.J.*
Lindsey, Harold Eugene, Jr., S.B. (*Univ. of South Carolina*) 1967. *Decatur, Ga.*
London, Charles David, A.B. 1967. *Beverly Hills, Calif.*
Lowe, David Alan (*Univ. of Massachusetts, Amherst*). *Dorchester*
Lyman, Bruce Taft, S.B. (*Bates Coll.*) 1967. *New London, Conn.*
Lytle, Bruce Whitney, A.B. (*Stanford Univ.*) 1967. *Fargo, N.Dak.*
McClung, Jean Patricia, A.B. †(*Radcliffe Coll.*) 1967. *Lawton, Okla.*
McDonald, Eugene Joseph, Jr., A.B. 1967. *Washington, D.C.*
Manders, Ernest Kelvin, A.B. 1967. *Coos Bay, Ore.*
Meyer, Allen Frederick, A.B. (*Yale Univ.*) 1967. *Silver City, N. Mex.*
Mickley, Steven Phillips, A.B. (*Bowdoin Coll.*) 1967. *Belmont*
Milford, Edgar Louis, Jr., A.B. 1967. *Nanuet, N.Y.*
Murray, Alexandra Jane, A.B. †(*Radcliffe Coll.*) 1967. *DeKalb, Ill.*
Nathan, Carl Francis, A.B. 1967. *New York, N.Y.*
Neumann, Kurt Harrison, S.B. (*Univ. of Michigan*) 1967. *Royal Oak, Mich.*
Nierenberg, Michael Alan, A.B. (*Oberlin Coll.*) 1967. *Wilmington, Del.*
Orkin, Stuart Holland, S.B. (*Massachusetts Inst. of Technology*) 1967. *New York, N.Y.*
Orme, James Forrest, Jr., A.B. (*Yale Univ.*) 1967. *Salt Lake City, Utah*

Patricelli, Peter Martin, A.B. 1967. *Seattle, Wash.*
Pierce, Letitia Power, A.B. (*Vassar Coll.*) 1967. *Baltimore, Md.*
Pohl, Richard Lewis, A.B. (*Princeton Univ.*) 1967. *Lynbrook, N.Y.*
Popper, Charles William, A.B. (*Princeton Univ.*) 1967. *New York, N.Y.*
Raetz, Christian Rudolf Hubert, S.B. (*Yale Univ.*) 1967. *Hamden, Conn.*
Reider, Horace Oliver, A.B. (*Univ. of North Carolina*) 1967. *Rosemont, Pa.*
Rigberg, Corey Nyles, A.B. 1967 *Philadelphia, Pa.*
Rosenbaum, Richard Barry, A.B. 1967. *Portland, Ore.*
Rosenberg, Mark Lewis, A.B. 1967. *Montclair, N.J.*
Rosenblatt, Roger Alan, A.B. 1967. *Alexandria, Va.*
Ruskin, Jeremy Neil, S.B. (*Tufts Univ.*) 1967. *Rockville Centre, N.Y.*
Schnitzer, Thomas Jack, A.B. (*Princeton Univ.*) 1967. *Baltimore, Md.*
Schwartz, Joel Howard, A.B. (*Univ. of Pennsylvania*) 1967. *Brooklyn, N.Y.*
Seinsheimer, Frank, 3d, S.B. (*Yale Univ.*) 1967. *Cincinnati, Ohio.*
Sennett, Jordan Avery, A.B. 1967. *Milwaukee, Wisc.*
Shelton, Rufus Waid, Jr., A.B. 1967. *Trussville, Ala.*
Sigelman, Jesse Leonard, A.B. (*Haverford Coll.*) 1967. *Staten Island, N.Y.*
Spiegel, Allen Michael, A.B. (*Columbia Univ.*) 1967. *Brooklyn, N.Y.*
Spiegel, David, A.B. (*Yale Univ.*) 1967. *New York, N.Y.*
Stamm, Walter Edward, A.B. (*Stanford Univ.*) 1967. *Portland, Ore.*
Stark, Ann Carol, A.B. (*Mt. Holyoke Coll.*) 1967. *Metuchen, N.J.*
Stark, James J., A.B. (*Yale Univ.*) 1967. *Palisade, N.J.*
Strunk, Brian Lippman, A.B. (*Princeton Univ.*) 1967. *Coatesville, Pa.*
ten Broeke, John William, A.B. (*Wesleyan Univ.*) 1967. *Cape Elizabeth, Me.*
Verlenden, William Lane, 3d, A.B. (*Univ. of North Carolina*) 1967. *Lookout Mountain, Tenn.*
Voralik, Frank Jerome, A.B. (*Columbia Univ.*) 1967. *Glendale, Calif.*
Wallyn, Robert Henry, A.B. (*Coll. of the Holy Cross*) 1967. *Homewood, Ill.*
Walsh, Bernard Timothy, A.B. (*Princeton Univ.*) 1967. *Chevy Chase, Md.*
Walter, Paul David, S.B. (*Univ. of Pittsburgh*) 1967. *Johnstown, Pa.*
Weng, Ssu Isabel, A.B. †(*Radcliffe Coll.*) 1966. *New York, N.Y.*

Whiffen, John Robert, (*Univ. of Wisconsin*). *Madison, Wisc.*
Wickner, William Tobey, A.B. (*Yale Univ.*) 1967. *Bethesda, Md.*
Wing, Edward Joseph, A.B. (*Williams Coll.*) 1967. *Port Washington, N.Y.*
Young, James Braham, A.B. (*Coll. of Wooster*) 1967. *Tarentum, Pa.*

First Year Class (1972)

Anderson, Jeffrey Lance, A.B. (*Univ. of Utah*) 1968. *Salt Lake City, Utah*
Arnon, Stephen Soule, A.B. 1968. *Berkeley, Calif.*
Bajart, Ann Marie, A.B. (*Vassar Coll.*) 1968. *Delray Beach, Fla.*
Baller, Julie, A.B. †(*Radcliffe Coll.*) 1968. *Pacific Palisades, Calif.*
Beguin, Elaine De Maris, A.B. (*Vassar Coll.*) 1968. *Fairport, N.Y.*
Belcher, Charles Davis, 3d, A.B. (*Univ. of Pennsylvania*) 1968. *Wilmington, Del.*
Belin, Daniel Cary, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Miami Beach, Fla.*
Benz, Edward John, Jr., A.B. (*Princeton Univ.*) 1968. *Bethlehem, Pa.*
Berwick, Donald Mark, A.B. 1968. *Moodus, Conn.*
Boger, Robert Shelton, A.B. (*Amehcrst Coll.*) 1968. *Wayne, Pa.*
Boyd, John Alan, A.B. (*Williams Coll.*) 1968. *Merion Station, Pa.*
Brem, Steven S., A.B. (*Rutgers Univ., New Brunswick*) 1968. *Fair Lawn, N.J.*
Brewer, David Kent, A.B. (*Princeton Univ.*) 1968. *Alton, Ill.*
Brown, Allen Leon, Jr., S.B. (*Massachusetts Inst. of Tech.*) 1967. *Wayland*
Brown, Edward Meigs, A.B. 1968. *Milton*
Brush, Alan David, A.B. (*Cornell Univ.*) 1968. *Elkins Park, Pa.*
Burnes, Daniel Carney, A.B. 1968. *Framingham*
Buzney, Sheldon Marc, A.B. 1968. *Cleveland Heights, Ohio*
Cabot, Edmund Billings, A.B. 1965 *Weston*
Candib, Lucy Michelle, A.B. †(*Radcliffe Coll.*) 1968. *Danby, Vt.*
Cantrill, Herbert Lee, 3d, A.B. (*Yale Univ.*) 1968. *Springfield, Ill.*
Carrera, Guillermo Federico, A.B. 1968. *New Orleans, La.*
Challender, Patricia Anne, A.B. (*Wellesley Coll.*) 1968. *Chatham, N.J.*

† Degree conferred by Harvard University.
N.B. Where the college name is omitted, the college is Harvard; where the state is omitted, the state is Massachusetts.

Chassin, Mark Russell Gray, A.B. 1968. *Manhasset, N.Y.*
Chin, William Waiman, A.B. (*Columbia Univ.*) 1968. *Hollis, N.Y.*
Clowes, Alexander Whitehill, A.B. 1968. *Dover*
Cohen, Barry Howard, A.B. (*New York Univ.*) 1968. *Huntington Station, N.Y.*
Colgan, Joseph Peter, A.B. (*Dartmouth Coll.*) 1968. *Larchmont, N.Y.*
Come, Steven Eliot, A.B. (*Cornell Univ.*) 1968. *Bethesda, Md.*
Cowan, Douglas Fairman, A.B. 1968. *Worcester*
Cowdry, Rex William, A.B. (*Yale Univ.*) 1968. *Phoenix, Ariz.*
Curfman, Gregory Day, A.B. (*Princeton Univ.*) 1968. *East Cleveland, Ohio*
de Bruyn Kops, Julian, 3d, A.B. 1968. *Dayton, Ohio*
Diehl, Andrew Kemper, A.B. (*Yale Univ.*) 1968. *San Antonio, Texas*
Dimond, Paul Kevin, S.B. (*Boston Coll.*) 1965. *Stoughton*
Doyle, Daniel Barry, A.B. (*Univ. of Notre Dame*) 1968. *Elkhart, Ind.*
Drazen, Jeffrey Mark, S.B. (*Tufts Univ.*) 1968. *Oak Park, Mich.*
Eastman, Richard Cyrus, A.B. (*Stanford Univ.*) 1968. *Stanford, Calif.*
Floyd, David Alan, A.B. (*Dartmouth Coll.*) 1968. *Farmington, Maine*
Fox, Frederick Joel, A.B. 1968. *Lakewood, N.J.*
Frank, Kenneth David, A.B. (*Amherst Coll.*) 1968. *Washington, D.C.*
Frederiksen, James Walter, A.B. (*Cornell Coll., Mt. Vernon, Iowa*) 1968. *Ferguson, Mo.*
Freedman, Robert, A.B. 1968. *Clayton, Mo.*
Fulks, Richard Morrison, S.B. (*Ohio Univ.*) 1968. *Athens, Ohio*
Gage, Thomas Patrick, S.B. (*United States Air Force Academy*) 1968. *Whitewater, Wis.*
Gallico, George Gregory, A.B. (*Yale Univ.*) 1968. *Ridgewood, N.J.*
Garling, Andrew Charles, A.B. (*Yale Univ.*) 1968. *Muncie, Ind.*
Gerber, Paul Douglas, S.B. (*Union Coll.*) 1968. *Jamaica, N.Y.*
Glass, Roger Ivan Marc, A.B. 1967. *Somerville, N.J.*
Goldmann, David Robert, A.B. 1967, M.A. (*Univ. of Sussex*) 1968. *Maplewood, N.J.*
Gonzales, Jose Raul, A.B. 1968. *San Juan, P.R.*
Goroll, Allan Harold, A.B. (*Brandeis Univ.*) 1968. *South Orange, N.J.*
Green, Laurence Henry, A.B. 1968. *Needham*
Greenfield, Geoffrey Michael, A.B. 1968. *Beverly Hills, Calif.*
Greiner, Paul Theodore, A.B. 1963. *New Hyde Park, N.Y.*
Grimes, Andrew Martin, A.B. (*Coll. of the Holy Cross*) 1968. *Newport, R.I.*
Groves, James Elton, A.B. 1968. *Magargel, Texas*

Gruber, Gabriel George, A.B. 1968. *Louisville, Ky.*
Hainen, Ronald Lawrence, A.B. (*Ohio State Univ.*) 1968. *Fostoria, Ohio*
Halperin, William Edward, A.B. (*Univ. of Pennsylvania*) 1968. *Loveladies, N.J.*
Hamlin, Nason Peabody, A.B. (*Wesleyan Univ.*) 1968. *Greenwich, Conn.*
Harmel, Richard Paul, Jr., A.B. 1968. *Westport, Conn.*
Herbert, Steven George, A.B. 1968. *Lansing, Mich.*
Hertz, Kenneth Clark, A.B. (*Brown Univ.*) 1968. *Brooklyn, N.Y.*
Hillier, Robert Kenneth, S.B. (*Yale Univ.*) 1968. *Seattle, Wash.*
Hinrichsen, Mary Ann, A.B. †(*Radcliffe Coll.*) 1968. *Ames, Iowa*
Hodge, Robert Henry, Jr., A.B. (*Princeton Univ.*) 1968. *Kansas City, Mo.*
Huang, Belle, A.B. (*Wellesley Coll.*) 1968. *Flushing, N.Y.*
Hudspeth, Albert James, A.B. 1967. *Houston, Texas*
Ilfeld, David Norman, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Beverly Hills, Calif.*
Jergesen, Harry Edward, A.B. 1968. *Mill Valley, Calif.*
Johnson, Mark Frederick, A.B. 1968. *Red Wing, Minn.*
Kay, Monte Stern, A.B. (*Yale Univ.*) 1968. *Roslyn Heights, N.Y.*
Kelling, Douglas George, A.B. 1968. *Waverly, Mo.*
Kirshner, Howard Stephen, A.B. (*Williams Coll.*) 1968. *Merion Station, Pa.*
Kittredge, Diane, A.B. (*Smith Coll.*) 1968. *Winchester*
Knowler, William C., A.B. (*Univ. of Iowa*) 1968. *Iowa City, Iowa*
Koepsell, Thomas Dickey, A.B. (*Univ. of Michigan*) 1968. *Plainwell, Mich.*
Kohn, Martin Steven, S.B. (*Massachusetts Inst. of Tech.*) 1967, S.M. (*ibid.*) 1968. *Elmont, N.Y.*
Langley, Kim, A.B. (*Pomona Coll.*) 1967. *Los Angeles, Calif.*
Larkin, Andrew Blinn, A.B. 1968. *Kensington, Conn.*
Lewis, Lorenzo, A.B. (*Univ. of North Carolina*) 1968. *Beaufort, N.C.*
Lipson, Stephen Jay, A.B. (*Yale Univ.*) 1968. *Staten Island, N.Y.*
Lowe, Robert, B.SC. (*Acadia Univ.*) 1968. *Kantville, N.S., Canada*
Mason, Steven Janney, A.B. (*Williams Coll.*) 1968. *Baltimore, Md.*
Masters, Kim James, A.B. (*Princeton Univ.*) 1968. *New York, N.Y.*
McCullough, Dennis Michael, A.B. 1967. *Dollar Bay, Mich.*
Mesulam, Marsel, A.B. 1968. *Istanbul, Turkey*

Michael, Max, 3d, A.B. (*Vanderbilt Univ.*) 1968. *Jacksonville, Fla.*
Miller, William Propst, A.B. (*Univ. of North Carolina*) 1968. *Concord, N.C.*
Mitchell, Arlene Ruth, A.B. (*Barnard Coll.*) 1968. *Calgary, Alberta, Canada*
Morgan, George James, Jr., S.B. (*Bucknell Univ.*) 1968. *Scranton, Pa.*
Musliner, Thomas Allen, A.B. 1967. *New York, N.Y.*
Musser, George Lewis, A.B. (*Haverford Coll.*) 1968. *Yeagertown, Pa.*
Nortman, Donald Franklin, A.B. (*Princeton Univ.*) 1968. *Leonia, N.J.*
ole Moiyoi, Onesmo Kitamoni, A.B. 1968. *Loliendo, Tanzania, East Africa*
Orellana, Tessa Denise, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Burtonsville, Md.*
Pavan, Peter Reed, A.B. 1968. *Quincy*
Pellegrini, John Louis, A.B. (*Northeastern Univ.*) 1968. *Woodsville, N.H.*
Peterlin, Boris Matija, S.B. (*Duke Univ.*) 1968. *Durham, N.C.*
Platt, Richard, A.B. (*Univ. of Pennsylvania*) 1968. *Wilmington, Del.*
Powell, Robert Owen, A.B. (*Univ. of California, Berkeley*) 1968. *Stockton, Calif.*
Rettig, Philip James, A.B. (*Coll. of the Holy Cross*) 1968. *Northbrook, Ill.*
Riggs, Suzanne Gracie, A.B. (*Brown Univ.*) 1968. *Baltimore, Md.*
Romero, Jorge Antonio, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Santurce, P.R.*
Rosenthal, Sara Georgia, A.B. (*Mount Holyoke Coll.*) 1968. *Pleasantville, N.Y.*
Schemmer, John Anthony, A.B. (*Yale Univ.*) 1968. *Pawling, N.Y.*
Schlessinger, Leslie David, A.B. (*Princeton Univ.*) 1968. *Chicago, Ill.*
Schoonover, Stephen Carlyle, A.B. 1968. *Schenectady, N.Y.*
Schulman, Alan Neil, A.B. 1968. *Munich, W. Germany*
Shimshak, Robert Roy, A.B. (*Rutgers Univ., New Brunswick*) 1968. *Paterson, N.J.*
Smith, Daniel Humphreys, A.B. 1968. *Oklahoma City, Okla.*
Soverow, Gary Jan, A.B. (*Princeton Univ.*) 1968. *Wilbraham*
Sparks, John Wesley, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Westfield, N.J.*
Steiner, Robert Warren, A.B. (*Dartmouth Coll.*) 1967. *Omaha, Nebr.*
Steinglass, Kenneth Michael, A.B. (*Yale Univ.*) 1968. *Hewlett, N.Y.*

Steinman, Lawrence, A.B (*Dartmouth Coll.*) 1968. *Culver City, Calif.*
Sviokla, Sylvester Charles, 3d, A.B. 1967. *Brockton*
Swedlow, David Barry, S.B. (*Massachusetts Inst. of Tech.*) 1968. *Columbus, Ohio*
Toth, Eileen Rose, S.B. (*Ursinus Coll.*) 1968. *Phillipsburg, N.J.*
Tria, Alfred Jacques, Jr., A.B. 1968. *Brooklyn, N.Y.*
Ukena, Thomas Eric, A.B. (*Oberlin Coll.*) 1968. *Ames, Iowa*
Varga-Golovcsenko, Steven, A.B. 1967. *Huntington, Station, N.Y.*
Waitzkin, Howard Bruce, A.B. 1966. *Akron, Ohio*
Waksmonski, Carol Ann, A.B. (*Smith Coll.*) 1968. *Salem*
Watson, Nils Christopher, A.B. 1968. *Concord*
Weller, Peter Fahey, A.B. 1968. *Needham*
Whyman, John Stephen, A.B. (*Princeton Univ.*) 1968. *Roslyn Heights, Long Island, N.Y.*

MEDICAL SCHOOL SUMMARY 1968–1969
(as of registration September 1968)

Fourth Year	161
Third Year	153
Second Year	126
First Year	128
Total	568

Colleges Represented

Acadia University	1
Allegheny College	3
Amherst College	12
Antioch College	1
Arizona, University of	1
Augustana College (South Dakota)	1
Barnard College	1
Bates College	2
Boston College	5
Boston University	3
Bowdoin College	6
Brandeis University	4
British Columbia, University of	1
Brooklyn College of The City University of New York	1
Brown University	6
Bucknell University	1
California, University of (at Berkeley)	4
Carleton College	1
Chicago, University of	4
City College of The City University of New York	1
Columbia University	15
Cornell College	1
Cornell University	7
Dartmouth College	42
Davidson College	2
Denison University	1
Duke University	2
Emory University	1
Fordham University	1
Georgetown University	2
Grinnell College	1
Gustavus Adolphus College	1
Harvard University	144
Haverford College	3
Holy Cross, College of the	7
Illinois, University of	1
Iowa, State University of	2
Johns Hopkins University	7
Kansas, University of	1
Manhattan College	1
Manhattanville College of the Sacred Heart	1
Marquette University	1
Massachusetts, University of	2
Massachusetts Institute of Technology	18
Miami, University of	1
Michigan State University	1
Michigan, University of	6
Minnesota, University of	2
Mississippi, University of	2
Missouri, University of	1
Mount Holyoke College	4
Nebraska, University of	1
New York University	4
North Carolina, University of	4
North Dakota, University of	2
Northeastern University	1
Notre Dame, University of	1
Oberlin College	5
Ohio University	1
Ohio State University	1
Oregon, University of	1
Oxford University (England)	1
Pennsylvania, University of	6
Pittsburgh, University of	1
Pomona College	2
Princeton University	41
Providence College	2
Queens College of The City University of New York	1
Queen's University	1
Radcliffe College	23
Reed College	1
Rice University	1
Rochester, University of	2
Rutgers University	5
St. Joseph's College (Pennsylvania)	1
Smith College	4
South Carolina, University of	1
South Dakota, University of	1
Stanford University	10
Swarthmore College	3

COLLEGES REPRESENTED

Texas, University of	1
Tufts University	4
Union College	2
United States Air Force Academy	1
Ursinus College	1
Utah, University of	1
Vanderbilt University	2
Vassar College	6
Vermont, University of	1
Virginia, University of	1
Washington and Jefferson College	1
Washington University	1
Wellesley College	3
Wesleyan University	4
Western Reserve University	2
Westminster College (Pennsylvania)	1
Williams College	13
Wisconsin, University of	4
Witwatersrand, University of the	2
Wooster, College of	1
Yale University	49
Total	569
Counted more than once	1
Total number of students	568
Entered advanced standing	87
Number of colleges represented	101
Number of college graduates	561
Number of non-graduates	7

Medical Schools Represented by Students Who Entered Harvard Medical School with Advanced Standing

Chicago, University of, School of Medicine	1
Dartmouth Medical School	61
Harvard School of Dental Medicine	1
Nebraska, University of, College of Medicine	1
New York, State University of, Downstate Medical Center College of Medicine	1
North Dakota, University of, School of Medicine	3
Oxford University Medical School (England)	7
Rutgers Medical School	1
South Dakota, University of, School of Medicine	3
Stanford University School of Medicine	2
Wayne State University School of Medicine	1
Western Reserve University School of Medicine	1
Witwatersrand, University of the, Medical School	2
Yale University School of Medicine	1
Total	87
Total number of students admitted to first year standing	481
Total	568

Medical Students on Leave of Absence for Research and Special Study
(as of September 1968)

1968–1969

Robert Clinton Bast, Jr.
Edward William Bough
John Michael Tamor Citron
Oliver Burton Cooperman
Peter Berridge Dean
Barry Richard Fernbach
Jonathan Evan Fielding
Leonard Earl Freedberg
Michael Anthony Gimbrone, Jr.
John William Gittinger, Jr.
Richard Joel Hodes
Andrew Noah Looker
Marshall Dore Sklar
Richard Harry Tew
James Marion Veazey, Jr.
William Gordon Wilkoff

Non-Resident Students

1968–1969

Hamm, Jeffrey Carl, A.B. 1968. *Milwaukee, Wis.*
Hirshman, Henrik Paul, A.B. (*Williams Coll.*) 1966. *Westport, Conn.*
Kimberly, Robert Parker, A.B. (*Princeton Univ.*) 1968. *New Haven Conn.*
Macon, James Barbour, 3d, A.B. (*Princeton Univ.*) 1968. *Richmond, Va.*
Sinclair, Stephen Hayward, A.B. (*Univ. of Pennsylvania*) 1968. *Phoenix, Ariz.*
Singer, Daniel Edwin, A.B. (*Yale Univ.*) 1968. *Brooklyn, N.Y.*

SCHOOL OF DENTAL MEDICINE

During the first two academic years, dental and medical students pursue courses of study that are alike in philosophy and objectives but that differ in content. Special exercises have been devised for dental and medical students to illustrate for each group how the basic sciences serve their respective professions. Tutorial study of dental students is under the direction of the dental staff.

As the entering classes are limited, it is possible to reduce the time usually involved in courses of dental techniques. Individual instruction, demonstrations, seminars, and conferences replace the traditional lecture system to a large degree.

A program to instruct third and fourth year students in effective use of ancillary dental personnel provides experience for each student in the performance of clinical procedures with the aid of a trained dental assistant or hygienist. Auxiliary personnel are also utilized to relieve the student of a variety of routine but time-consuming tasks.

Complete details regarding the plan of instruction as well as a list of members of the staff are available in the catalogue of the School of Dental Medicine.

SCHOOL OF DENTAL MEDICINE
DEGREES CONFERRED

On June 13, 1968 Eleven Degrees were Conferred as Follows:

D.M.D.

Paul David Cashion, a.b. (*Coll. of the Holy Cross*) 1964.
Peter Michael Dinnerman, a.b. (*Univ. of New Hampshire*) 1965.
Robert Allen Frank, a.b. (*Queens Coll.*) 1966.
Paul Henry Goff, s.b. (*Fairleigh Dickinson Univ.*) 1965.
Gary Stephen Goldstein (*Univ. of Connecticut, 1961–64*).
Edward Bert Seldin, s.b. (*Tufts Univ.*) 1964.
Richard Odell Shaver, a.b. (*Univ. of Colorado*) 1961.
Stuart Super, a.b. (*New York Univ.*) 1963.
Charles Maurice Trauring, a.b. (*Columbia Univ.*) 1965.

D.M.D. magna cum laude for Thesis in a Special Field

Marlin Worth Walling.

D.M.D. magna cum laude

Steven Malcolm Roser, a.b. (*Middlebury Coll.*) 1968.

SCHOOL OF DENTAL MEDICINE STUDENTS

Fourth Year Class (1969)

‡Baer, Warren Sheldon (*Boston Univ.*) *Woburn*
**Barber, Ronald Ernest, B.Sc. (*South West Essex Technical Coll.*) 1951, B.D.S. (*Guy's Hospital Medical School*) 1956. *Melrose*
‡Bauer, Reginald Alexander (*Univ. of California at Los Angeles*) *Los Angeles, Calif.*
‡Breyan, David Edward (*Boston Univ.*) *West Roxbury*
Evans, Bruce Eugene, A.B. (*Williams Coll.*) 1965. *Portland, Maine*
Foord, William Dennis, S.B. (*Wesleyan Univ.*) 1965. *Garden City, N.Y.*
**Grøn, Anna-Marie, D.D.S. (*Univ. of Copenhagen*) 1952. *Copenhagen, Denmark*
Haddad, Raymond David, A.B. (*Univ. of New Hampshire*) 1965. *Methuen*
Hymoff, Richard Steven, A.B. (*Brandeis Univ.*) 1965. *Brookline*
‡Kaban, Leonard Bruce, A.B. (*Queens Coll. of The City Univ. of New York*) 1966. *Flushing, N.Y.*
Kallio, Donald Michael, A.B. (*Coll. of the Holy Cross*) 1965. *Worcester*
‡Leaf, Robert Jay (*Cornell Univ.*) *Harrison, N.Y.*
**Lebret, Laure Marie, D.D.S. (*University of Paris*) 1947. *Paris, France*
Piecuch, Joseph Francis, A.B. (*Univ. of Massachusetts*) 1965. *Indian Orchard*
‡Rothman, Kenneth Jay, A.B. (*Colgate Univ.*) 1966. *Long Beach, N.Y.*
Shay, Norbert James, Jr., S.B. (*Siena Coll.*) 1965. *Menands, N.Y.*
Weiner, Allen Lewis, A.B. (*Yeshiva Univ.*) 1965. *Winthrop*

‡ Admitted on basis of three years' college work.
* Transferred to the third year class.
** Transferred to the fourth year class.
N.B. Where the college name is omitted, the college is Harvard; where the state is omitted, the state is Massachusetts.

Third Year Class (1970)

Abbatiello, Vincent Jerome, A.B. (*Cornell Univ.*) 1966. *Westbury, N.Y.*

Colchamiro, Stephen A., S.B. (*Brooklyn Coll. of The City Univ. of New York*) 1966. *Brooklyn, N.Y.*

Commette, James Albert, S.B. (*Coll. of the Holy Cross*) 1966. *Beverly*

Coppe, Michael Richard, A.B. (*Fordham Coll.*) 1966. *New Britain, Conn.*

Costello, John Patrick, S.B. (*Fairfield Univ.*) 1966. *Maspeth, N.Y.*

Diehl, Kenneth Robert, A.B. (*Cornell Univ.*) 1966. *Harrisburg, Pa.*

Frankel, Jerold Martin, A.B. (*Amherst Coll.*) 1966. *Atlanta, Ga.*

Krohn, Melvyn Richard, S.B. (*Brooklyn Coll. of The City Univ. of New York*) 1966. *Brooklyn, N.Y.*

Liebow, Charles, A.B. (*New York Univ.*) 1966. *Brooklyn, N.Y.*

*Rosenstein, David Ira, A.B. (*Boston Univ.*) 1966. [Univ. of Pennsylvania School of Dental Medicine] *Dorchester*

Thornton Malcolm Edward, S.B. (*Fairleigh Dickinson Univ.*) 1966. *Glastonbury, Conn.*

Second Year Class (1971)

Albert, Thomas William, S.B. (*Univ. of Massachusetts*) 1967. *Beverly*

Baumer, Alex John, S.B. (*Tufts Coll.*) 1967. *Auburn, Maine*

Brackman, Joseph Lawrence, A.B. 1961. *Newton Centre*

Bunch, William Maurice, S.B. (*Univ. of Arizona*) 1967. *Superior, Ariz.*

Burnett, Paul Robert (*Univ. of New Hampshire*) *Wakefield*

Feldbau, Elliot Victor, A.B. (*Clark Univ.*) 1967. *Swampscott*

Gallagher, Frank Edward, A.B. (*Princeton Univ.*) 1967. *Worcester*

Indresano, Albert Thomas, A.B. (*Boston Univ.*) 1967. *Melrose*

Jacobs, Jonathan S. (*Univ. of Rochester*) *Long Beach, N.Y.*

Kelly, John Patrick Washington, A.B. (*Boston Coll.*) 1964. *Milton*

Lipnicki, John Joseph, S.B. (*St. Peter's Coll.*) 1967. *Bayonne, N.J.*

Posteraro, Anthony Francis, S.B. (*Fordham Coll.*) 1967. *Larchmont, N.Y.*

Reisman, Richard Jay, A.B. (*Univ. of Massachusetts*) 1967. *Newton Centre*

Schwartz, Harry Colin, S.B. (*Brooklyn Coll. of The City Univ. of New York*) 1967. *Brooklyn, N.Y.*
Siatkowski, Raymond Edward, B.E.E. (*Cornell Univ.*) 1964. *Shillington, Pa.*
Thomas, Robert John, S.B. (*Boston Coll.*) 1967. *Ossining, N.Y.*

First Year Class (1972)

Alexander, Lee Jarrell, A.B. 1968. *Ft. Lauderdale, Fla.*
Beirne, Owen Ross, A.B. (*Univ. of California, Berkeley*) 1968. *Santa Maria, Calif.*
Burke, Joseph F., Jr., A.B. (*Boston Univ.*) 1968. *Dorchester*
Clayman, Lewis, S.B. (*Brooklyn Coll. of The City Univ. of New York*) 1968. *Brooklyn, N.Y.*
Finsilver, Edward James, A.B. (*Bowdoin Coll.*) 1968. *St. Louis, Mo.*
Greenfield, David Solomon, S.B. (*Polytechnic Institute of Brooklyn*) 1968. *Oceanside, N.Y.*
Iacono, Vincent Joseph, A.B. (*New York Univ.*) 1968. *Brooklyn, N.Y.*
Kalayan, Robert James, A.B. 1967, M.S. (*Brandeis Univ.*) 1968. *Watertown*
Koch, Lear von, S.B. (*Yale Univ.*) 1968. *Miami, Fla.*
Needleman, Howard Lee (*Rutgers Univ.*). *Maywood, N.J.*
Nishimura, Robert Neal (*Washington State Univ.*). *Spokane, Wash.*
Shafer, Stanley Mark, A.B. (*New York Univ.*) 1968. *Bellmore, N.Y.*
Silversin, Jacob Berman, A.B. (*Rutgers Univ.*) 1968. *Ventnor City, N.J.*
Stone, David Mark, A.B. (*Boston Univ.*) 1968. *Mattapan*
Torelli, Richard Peter, S.B. (*Tufts Univ.*) 1968. *Branford, Conn.*
Wald, Cy, A.B. (*Queens Coll. of The City Univ. of New York*) 1968. *Kew Gardens, N.Y.*

Dental School Summary 1968–1969

Fourth Year	17
Third Year	11
Second Year	16
First Year	16
Total	60

Colleges Represented by Students Enrolled in the School of Dental Medicine

Amherst College	1
Arizona, University of	1
Boston College	2
Boston University	6
Bowdoin College	1
Brandeis University	1
Brooklyn College of The City University of New York	4
California, University of, Berkeley	1
California, University of, at Los Angeles	1
Clark University	1
Colgate University	1
Cornell University	4
Fairfield University	1
Fairleigh Dickinson University	1
Fordham College	2
Harvard University	3
Holy Cross, College of the	2
Massachusetts, University of	3
New Hampshire, University of	2
New York University	3
Polytechnic Institute of Brooklyn	1
Princeton University	1
Queens College of The City University of New York	2
Rochester, University of	1
Rutgers University	2
Saint Peter's College	1
Siena College	1
South West Essex Technical College	1
Tufts University	2
Washington State University	1
Wesleyan University	1
Williams College	1
Yale University	1
Yeshiva University	1
Number of colleges represented	34
Number of college graduates	50
Number of non-graduates	10

Medical Schools Represented by Students Who Entered Harvard School of Dental Medicine with Advanced Standing

Copenhagen, University of	1
Guy's Hospital Medical School	1
Paris, University of	1
Pennsylvania, University of, School of Dental Medicine	1

PROFESSORS EMERITI

Fuller Albright, M.D.	Professor of Medicine
Joseph C. Aub, M.D.	Professor of Research Medicine
Theodore L. Badger, M.D.	Clinical Professor of Medicine
George P. Berry, M.D.	Professor of Bacteriology
Grete L. Bibring, M.D.	Clinical Professor of Psychiatry
Edward F. Bland, M.D.	Clinical Professor of Medicine
Herrman L. Blumgart, M.D.	Professor of Medicine
Allan M. Butler, M.D.	Professor of Pediatrics
Randolph K. Byers, M.D.	Associate Clinical Professor of Pediatrics
William B. Castle, M.D.	Francis Weld Peabody Faculty Professor of Medicine
Edward D. Churchill, M.D.	John Homans Professor of Surgery
Stewart H. Clifford, M.D.	Associate Clinical Professor of Pediatrics
Louis K. Diamond, M.D.	Professor of Pediatrics at The Children's Hospital (from September 1, 1968)
Edwin B. Dunphy, M.D.	Henry Willard Williams Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary
John F. Enders, PH.D.	University Professor
Jacob Fine, M.D.	Professor of Surgery at the Beth Israel Hospital
Maxwell Finland, M.D.	George Richards Minot Professor of Medicine (from September 1, 1968)
Cyrus H. Fiske, M.D.	Professor of Biological Chemistry
Felix G. Fleischner, M.D.	Clinical Professor of Radiology
Chester N. Frazier, M.D., DR.P.H.	Edward Wigglesworth Professor of Dermatology
Samuel L. Gargill, M.D.	Clinical Professor of Medicine (died September 23, 1968)
William T. Green, M.D.	Harriet M. Peabody Professor of Orthopedic Surgery (from September 1, 1968)

A. Baird Hastings, ph.d.	Hamilton Kuhn Professor of Biological Chemistry
Parker Heath, m.d.	Clinical Professor of Ophthalmology
Ives Hendrick, m.d.	Clinical Professor of Psychiatry
James T. Irving, m.d., ph.d.	Professor of Physiology at the Forsyth Dental Infirmary
Chester M. Jones, m.d.	Clinical Professor of Medicine
Varaztad H. Kazanjian, m.d., d.m.d.	Professor of Plastic Surgery
Otto Krayer, m.d.	Gustavus Adolphus Pfeiffer Professor of Pharmacology
Eugene M. Landis, m.d., ph.d.	George Higginson Professor of Physiology
Erich Lindemann, m.d., ph.d.	Professor of Psychiatry
Charles C. Lund, m.d.	Clinical Professor of Surgery
Alexander Marble, m.d.	Clinical Professor of Medicine
Leland S. McKittrick, m.d.	Clinical Professor of Surgery
Langdon Parsons, m.d.	Clinical Professor of Gynecology
John C. Rock, m.d.	Clinical Professor of Gynecology
LeRoy A. Schall, m.d.	Walter Augustus Lecompte Professor of Otology and Professor of Laryngology
Richard Schatzki, m.d.	Associate Clinical Professor of Radiology
George C. Shattuck, m.d.	Clinical Professor of Tropical Medicine
Clement A. Smith, m.d.	Professor of Pediatrics at the Boston Hospital for Women (Lying-In Division)
George Van S. Smith, m.d.	W. H. Baker Professor of Gynecology
Richard M. Smith, m.d., s.d.	Thomas Morgan Rotch Professor of Pediatrics
Franklin F. Snyder, m.d.	Associate Professor of Anatomy and Obstetrics
Harry C. Solomon, m.d.	Professor of Psychiatry
Benjamin Tenney, m.d.	Clinical Professor of Obstetrics and Gynecology

PROFESSORS EMERITI

Kurt H. Thoma, D.M.D.	Professor of Oral Surgery and Charles A. Brackett Professor of Oral Pathology
Maurice M. Tolman, M.D.	Clinical Professor of Dermatology
Frederick H. Verhoeff, M.D.	Professor of Ophthalmic Research (died October 22, 1968)
Shields Warren, M.D.	Professor of Pathology at the New England Deaconess Hospital
James C. White, M.D.	Professor of Surgery at the Massachusetts General Hospital
Louis Wolff, M.D.	Clinical Professor of Medicine
Paul I. Yakovlev, M.D.	Clinical Professor of Neuropathology

OFFICERS OF ADMINISTRATION AND INSTRUCTION

	PAGE
Aaron, R. S.	241
Aaronson, L. D.	128
Ab, G.	268
Abbruzzese, A. A.	135
Abelmann, W. H.	131
Abercrombie, J. S., Jr.	196
Abo, S.	268
Ablow, S. L.	244
Abraham, A. S.	195
Abraham, J. M.	209
Abrams, A. L.	262
Abrams, H. L.	251
Abramson, M.	147
Abramson, N.	147
Abramson, S. B.	124
Abroms, I. F.	168
Achenbach, H.	262
Ackerman, A. B.	128
Ackerman, I. P.	135
Ackerman, R. H.	168
Ackroyd, F. W.	259
Adams, D. F.	252
Adams, H. D.	261
Adams, J. G., Jr.	259
Adams, R. A.	196
Adams, R. D.	165
Adams, T. W.	206
Adar, R.	265
Adels, B. R.	206
Adelson, J. W.	120
Adelson, W. J.	209
Ades, F.	141
Adler, G.	230
Adler, M. H.	233
Admirand, W. H.	147
Adelstein, S. J.	251
Adwani, A. R.	168
Aeschliman, B. L.	238
Aeschlimann-Herrera, M. I.	209
Africa, B. B.	147
Agostini, B.	168
Agular, S. G.	244
Aiello, L. M.	181
Aisenberg, A. C.	132
Akiyoshi, T.	268
Alarcon, R. A.	196
Albert, H. S.	228
Albert, J.	128
Alberti, K. G. M.	148
Albright, F.	325
Aldredge, H. R.	168
Alexander, J. L.	268
Alexander, S.	141
Algird, J. R.	265
Ali, M.	265
Aliapoulios, M. A.	259
Allen, D. W.	132
Allen, H. F.	180
Alper, C. A.	135
Alper, M. H.	257
Alpers, D. H.	135
Alpers, J. B.	116
Alpert, D. R.	181
Alpert, J. J.	203
Alpert, M. E.	148
Altay, C.	209
Altman, G. E.	135
Altman, H. G.	228
Altschule, M. D.	132
Amacher, A. L.	272
Ambrose, C. T.	111
Ames, A., III	261
Amick, C. J.	197
Amory, F., Jr.	7
Amos, H.	12, 111
Amsterdam, E. A.	148
Ando, A.	118
Anders, T. R.	241
Anderson, A. E.	196
Anderson, C. D.	231
Anderson, D. R.	182
Anderson, L. G.	154

PAGE

Anderson, M. 185
Anderson, P. W., Jr. 205
Anderson, R. B. 210
Anderson, R. J. 148
Anderson, T. I. 230
Anderson, W. A. 107
Anderson, W. H. 241
Andre-Schwartz, J. A. 112
Andrew, N. W. 262
Andrikides, A. L. 185
Angelini, H. D. 190
Angell, F. L. 253
Angevine, C. D. 148
Anliker, J. E. 261
Annino, D. J. 209
Annunziata. M. S. 244
Antonioli, D. A. 199
Antonowicz, I. 205
Aoki, A. 268
Applebaum, E. L. 191
Appleby, M. D. 231
Appleton, W. C. 233
Aquino, M. V. 182
Arakgui, J. A. 177
Arditti, R. R. 112
Arima, T. 120
Arkema, P. H. 241
Arky, R. A. 132
Armstrong, D. T. 106
Armstrong, J. B. 120
Arnason, B. G. W. 165
Arndt, K. A. 127
Aroesty, J. M. 141
Aronow, S. 140
Asbury, A. K. 166
Aserkoff, R. D. 176
Astrom, K. E. 166
Aster, R. H. 132
Atherton, S. O. 211
Atkins, L. 194
Aub, J. C. 325
Aufranc, O. E. 185
Auld, D. S. 120
August, C. S. 210
Austen, G., Jr. 261
Austen, K. F. 130
Austen, W. G. 256

PAGE

Austin, J. H. 176
Austin, R. C. 265
Auty, J. R. 187
Autor, S. 238
Autor, S. M. 238
Avery, I. 244
Avery, N. C. 233
Avruskin, T. W. 206
Axelrod, L. 154
Ayyangar, K. M. 148
Aziz, K. U. 210
Babior, B. M. 135
Bach-Y-Rita, G. 241
Bacon, E. A. 196
Baden, H. P. 127
Badger, T. L. 325
Baehner, R. L. 206
Baer, G. K. 197
Baethke, I. 210
Baethke, R. 148
Bagley, C. M. 154
Bailey, C. C. 135
Bailey, G. L. 146
Bailit, I. W. 206
Bain, J. E. 233
Bain, M. D. 233
Bain, R. W. 199
Baker, E. P., Jr. 265
Baker, F. 231
Baker, G. P., Jr. 141
Baker, H. P. 206
Baker, L. 141
Baker, W. H. 132
Balazs, E. A. 181
Balbaky, Y. 233
Balboni, V. G. 141
Baldwin, D. C., Jr. 205
Baldwin, W. E. 268
Ball, E. G. 116
Ball, M. R. 261
Ballantine, H. T., Jr. 258
Balodimos, M. C. 140
Balogh, K. 194
Banas, J. S., Jr. 148
Banks, B. M. 132
Banks, H. H. 185
Banks, P. A. 141

PAGE

Barber, R. E. 187
Bard, D. S. 177
Barger, A. C. 12, 219
Baringer, J. F. 167
Barker, R. H. 174
Barlow, C. F. 165
Barlow, J. J. 173
Barlow, J. S. 166
Barnes, A. R. B. 177
Barnes, B. A. 259
Barnett, G. O. 132
Barnum, W. J., Jr. 233
Barr, A. H., Jr. 7
Barr, J. S., Jr. 186
Barry, P. E. 142
Barsamian, E. M. 259
Bartlett, M. K. 256
Bartlett, R. H. 268
Barton, L. L. 211
Barton, R. W. 154
Barton, T. C. 174
Barzilai, R. 120
Basch, R. I. 252
Bashirelahi, N. 120
Bass, H. 135
Basso, A. 268
Bates, F. D. 186
Battit, G. E. 262
Baum, E. A. 241
Baum, R. S. 206
Bayard, E. Q. 241
Bayles, T. B. 132
Bazan, N. G., Jr. 118
Beaser, S. B. 135
Becher, R. M. 272
Beck, C. H., Jr. 146
Beck, J. C. 244
Beck, W. S. 132
Beckwith, J. R. 111
Beecher, H. K. 256
Beeson, P. B. 139
Beeuwkes, R. 220
Behnke, W. D. 120
Behringer, G. E. 262
Behrman, H. R. 107
Beisswenger, P. J. 120
Beith-Halahmi, D. 120

PAGE

Belfer, M. L. 244
Bell, B. A. 210
Bell, E. D., Jr. 141
Bell, W. R. 146
Beller, R. J. 114
Belli, J. A. 251
Belsey, R. E. 148
Belson, M. O. 174
Benaron, T. 234
Bender, W. J. 9
Bendixen, H. H. 258
Benedict, P. H. 141
Bengloff, H. 262
Benner, M. H. 148
Bennett, G. F. 6
Bennett, M. J. 234
Bennett, P. J. 262
Benson, H. 220
Berenberg, W. 203
Berenson, R. A. 9
Berg, R. B. 203
Berg, S. 262
Bergel, E. W. 238
Berger, S. M. 174
Bergner, A. 148
Bergner, R. K. 210
Berlin, G. A. 230
Berlin, R. D. 219
Berman, J. M. 238
Berman, L. D. 194
Berezin, M. A. 228
Bernard, W. F. 257
Bernet, F. W. 244
Bernstein, D. S. 132
Bernstein, N. R. 234
Bernstein, S. B. 244
Berry, G. P. 325
Berry, P. R. 268
Berry, Y. J. 191
Berson, E. L. 181
Bertland, A. U., II 118
Bethune, J. L. 117
Beuscher, R. B. 238
Beuscher, W. F. 234
Bianco, J. A. 268
Bibring, G. L. 325
Biely, P. 120

PAGE

Bierbaum, B. E. 186
Bigelow, E. L. 7
Bigelow, F. S. 132
Bigelow, N. H. 196
Bilheimer, D. W. 154
Binstock, W. A. 234
Birchard, W. H. 146
Bird, K. T. 135
Birk, C. L. 234
Birkenfeld, R. 265
Birtch, A. G. 260
Bishop, D. C. 148
Bissell, D. M., Jr. 154
Biswas, C. 118
Biswas, D. K. 112
Bjare, U. S. 112
Black, H. 262
Black, P. H. 132
Blackburn, G. 268
Blackow, N. R. 148
Blacklow, R. S. 10, 142
Blackman, J. H. 241
Blair, M. M. (H.) 206
Blanch, E. T. 206
Blanch, G. T. 154
Bland, E. F. 325
Bland, J. H. L. 265
Blane, H. T. 227
Blau, D. 234
Bleiberg, M. L. 154
Bleich, H. L. 135
Blinks, J. R. 215
Blitzer, J. R. 234
Bloch, K. J. 132
Block, P. C. 154
Bloemers, H. P. J. 148
Bloom, B. S. 222
Bloom, G. E. 206
Bloomfield, R. A. 132
Bloomquist, H. J. 11
Blotner, K. E. 177
Blout, E. R. 116
Blumgart, H. L. 325
Bode, H. H. 206
Bohonos, N. 196
Boileau, G. 148
Bojar, S. 227

PAGE

Bokonjic, R. 121
Bolan, J. T. 199
Boland, A. L. 188
Boling, L. A. 234
Bonar, L. C. 187
Bonier, R. J. 234
Bonner, F. J. 234
Bonnet, C. J. M. 168
Bonney, W. W. 268
Boos, W. 121
Bordone, L. E. 241
Borel, H. 205
Bornstein, I. D. 234
Borrell, L. J. 244
Borrero, J. A. 177
Boruchoff, S. A. 180
Bosler, R. B. 163
Botsford, T. W. 257
Bouton, B. B. 244
Bower, A. D. 210
Bownds, M. D. 163
Boyd, M. B. 265
Boyd, R. J. 186
Braasch, J. W. 265
Braconier, H. E. 181
Bradley, R. F. 132
Bradley, W. G. 168
Bragg, R. L. 234
Branch, W. T., Jr. 154
Brandon, D. L. 124
Bransome, E. D., Jr. 141
Bratt, M. A. 112
Braun, A. P. 154
Braun, P. 140
Brauner, G. J. 128
Braverman, L. E. 142
Braxelton, T. B. 204
Bray, D. C. H. 163
Brendze, R. B. 186
Brener, B. J. 268
Brennan, J. H. 234
Bresnan, M. J. 168
Breton, R. L. 254
Bretton, R. 127
Brewster, A. C. 146
Bricetti, A. B. 154
Briefer, C. 142

	PAGE
Briggs, B. A.	268
Briley, A. M.	206
Brimmer, A. F.	8
Brines, J. K.	206
Britton, M. C.	148
Brockhurst, R. J.	180
Brodie, R. D.	234
Brokelman, J. D.	107
Brondos, G. A.	199
Brooks, H.	91
Brooks, H. E., Jr.	176
Brooks, H. L.	148
Brooks, J. R.	257
Brooks, L.	241
Brougham, M. F.	262
Brown, A. E.	265
Brown, A. H.	268
Brown, D. A. J.	176
Brown, H.	260
Brown, H. P.	262
Brown, J. R.	199
Brown, J. W.	206
Brown, M. E.	196
Brown, R. E.	148
Brown, R. W.	176
Brown, T.	185
Brown, W. J.	107
Brownell, G. L.	140
Brownlee, R. E.	142
Brownsberger, C. N.	234
Bruner, J. M. R.	262
Bruns, R. R.	140
Brussel, B. B.	234
Brutsaert, D. L.	139
Buccino, R. A.	154
Buchanan, T. M.	154
Bucher, N. L. R.	133
Buckley. M. J.	260
Budd, M. A.	142
Budner, H. M.	234
Budoff, M.	231
Budson, R. D.	234
Bulian, M. J.	174
Bullard, D. M., Jr.	228
Bunge, M. B.	163
Bunge, R. P.	163
Buoncristiani, J. F.	140
Burack, W. R.	135
Burbank, C. B.	266
Burgess, A. M., Jr.	222
Burgin, L. B.	204
Burke, J. F.	258
Burke, J. P.	148
Burke, L.	174
Burleson, R. L.	269
Burnett, J. B.	127
Burns, D. J. W.	121
Burr, F. H.	6
Burnstein, N. A.	199
Busch, G. J.	197
Busfield, B. L., Jr.	234
Bushnell, L. S.	262
Bushueff, B. P.	252
Butler, A. M.	325
Butterfield, D. E.	266
Buxbaum, R. C.	142
Buzzee, D. H.	113
Byard, J. L.	121
Byers, R. K.	325
Byrd, L. D.	215
Cabot, P. C.	9
Cadigan, J. B., Jr.	142
Cady, B.	266
Cady, C. F.	262
Cahill, G. F., Jr.	131
Cain, A. J.	234
Caldabini, J. J.	199
Caldicott, W. J. H.	254
Caldwell, E. F.	234
Calkins, H.	6
Callahan, E. J., III	142
Campo, R. A.	215
Cannon, B.	257
Cantor, F. K.	168
Cantu, R. C.	266
Capecchi, M. R.	117
Caplan, G.	226
Caplan, L. M.	234
Caplan, L. R.	168
Caplan, S. R.	219
Carey, R. J.	146
Carey, R. W.	142
Carmichael, W. G.	234
Carpenter, C. B.	135

PAGE

Carper, J. M. 210
Carr, G. D. 241
Carroll, J. M. 181
Carter, E. L. 266
Carter, F. 234
Carter, J. R., Jr. 135
Casella, C. W. 241
Casey, J. I. 148
Cashion, W. R., Jr. 154
Caskey, W. H. 142
Caspar, D. L. D. 219
Cassem, E. H. 244
Castagneto, M. 269
Castelli, W. P. 222
Castle, W. B. 325
Castleman, B. 193
Cathou, R. E. 140
Catino, D. 154
Caulfield, J. B. 194
Cavanaugh, J. J. A. 206
Caveness, W. F. 167
Cavins, J. A. 196
Center, M. S. 121
Cerami, A. 148
Chader, G. J. 121
Chafetz, M. E. 226
Chaffey, J. T. 252
Chalfen, M. H. 142
Chalmers, T. C. 139
Chamberlain, D. A. 140
Chamberlain, J. W. 262
Chandler, H. P. 186
Chandra, R. 148
Chandross, R. J. 269
Chapman, C. B. 139
Chapman, E. M. 131
Chapman, R. B. 181
Charles, D. 174
Charreau, E. H. 121
Chase, L. S. 230
Chasen, M. C. 238
Chasin, R. M. 234
Chasin, W. D. 190
Chauncey, H. 7
Chavez-Peon, F. D. 269
Chayen, M. S. 261
Chazan, B. I. 140

PAGE

Cheever, F. S. 7, 9
Chen, A. J. 269
Chen, S-H. 210
Chernin, E. 278
Chick, W. L. 148
Cho, C. H. 269
Choras, P. T. 234
Christ, J. 228
Christen, P. 121
Christlieb, A. R. 140
Christoforides, C. 269
Chung, R. S. 272
Chung, T. J. 210
Churchill, E. D. 325
Churchill, W. H., Jr. 154
Chylack, L. T., Jr. 182, 184
Ciccarelli, E. C. 181
Cion, M. C. 244
Civan, M. M. 135
Clapp, P. R. 254
Clark, A. 215
Clark, J. G., Jr. 234
Clark, R. J. 154
Clark, W. H., Jr. 193
Clifford, M. H. 142
Clifford, S. H. 325
Climent, C. E. 244
Cline, H. S. 234
Cloherty, J. P. 211
Clouse, M. E. 253
Clowes, G. H. A., Jr. 256
Clubb, R. W. 191
Cochran, W. D. 206
Codington, J. F. 118
Cogan, D. G. 180, 184
Coggeshall, R. E. 106
Coggins, C. H. 142
Cogliano, F. D. 266
Cohen, A. 206
Cohen, C. 219
Cohen, D. J. 244
Cohen, D. N. 182
Cohen, E. M. 148
Cohen, J. 185
Cohen, J. J. 142
Cohen, J. M. 210
Cohen, L. B. 148

PAGE

Cohen, M. E. 167
Cohen, M. W. 164
Cohen, P. 133
Cohen, R. B. 193
Cohen, R. E. 228
Cohen, S. I. 142
Cohler, B. J. 241
Cole, S. R. 198
Cole, W. M. 154
Collins, J. A. 230
Collins, J. J., Jr. 266
Collins, J. L. 234
Collis, W. J. 182
Collotti, C. 148
Colman, R. F. 117
Colman, R. W. 135
Colodny, A. H. 262
Colton, T. 222
Comb, D. G. 117
Comunale, F. L. 262
Conant, L., Jr. 210
Conboy, E. A. 241
Cone, T. E., Jr. 203
Conger, S. B. 155
Connelly, J. P. 203
Conners, C. K. 227
Connor, W. S. 168
Conroy, M. R. 133
Constable, J. D. 262
Cooley, M. H. 142
Coolidge, J. C. 234
Coolidge, W. A. 8
Coombs, T. L. 118
Coons, A. H. 111
Cooper, A. J. 148
Cooper, R. A. 142
Cope, O. 256
Copel, J. W. 266
Copeland, B. E. 194
Copeland, L. duP. 7
Coran, A. G. 269
Corazza, R. 168
Corning, H. B. 155
Corry, R. J. 272
Corson, J. M. 194
Corwin, H. A. 234
Coser, R. L. 231

PAGE

Cosimi, A. B. 269
Cossette, R. 269
Costa, G. G. 155
Cote, R. A. 196
Cotran, R. S. 194
Couch, N. P. 260
Courtiss, E. H. 191
Cowles, G. 8
Craig, J. M. 193
Craighead, J. E. 194
Crain, J. D. 210
Cramer, D. V. 198
Crane, C. 257
Craven, N. S. 241
Crawford, D. M. 269
Crawford, J. D. 203
Crider, A. B. 231
Crigler, J. F. 203
Criss, A. J. 146
Critz, G. T. 209
Crocker, A. C. 203
Crocker, A. T. 142
Crocker, D. 260
Crocker, D. W. 194
Crocker, J. 7
Crocker, S. C. 142
Cronin, T. P. 181
Cronkhite, L. W., Jr. 222
Crowe, J. M. 262
Crowell, W. M. 238
Cserr, H. F. 167
Cubelli, G. E. 231
Cullen, R. F., Jr. 168
Culp, L. A. 148
Culver, P. J. 10, 12, 136
Cumings, T. 9
Cummings, C. W. 191
Cummins, J. F. 142
Cunningham, A. W. 194
Curren, F. C. 241
Curtis, G. W. 194
Curtis, S. J. 142
Curwen, W. L. 127
Cutler, R. E. 235
Cutler, R. W. P. 166
Cutter, R. A. 7
Daggett, W. M. 260

PAGE

Dahl, A. A. 182
Dalal, A. N. 273
Dalen, J. E. 142
Dalton, B. C. 262
Dalton, J. C. 146
Daly, A. K. 112
Daly, J. J. 199
Dalrymple, S. D. 215
Dammin, G. J. 193
Daniel, M. D. 112
Daniels, E. M. 228
Daniels, H. S. 238
Daniels, J. B. 112
Danielsen, J. B. 262
Dans, P. E. 148
Darling, R. C. 266
Darrah, H. K. 269
Das, J. B. 261
Das, L. 205
Das, S. R. 113
d'Autremont, C. 235
Davey, F. R. 198
David, J. R. 133
Davidow, E. P. 176
Davidoff, F. F. 136
Davidson, C. S. 131
Davidson, E. M. 235
Davidson, G. E. 235
Davis, B. D. 111, 114
Davis, K. K. 206
Davis, M. A. 252
Day, M. 235
Daw, N. W. 164
Dawson, D. M. 166
Deber, C. M. 121
Dechatelet, L. R. 121
Decter, N. 273
De Friez, A. I. 136
Deftos, L. J. 142
DeGiacomo, F. C. 146
de Haas, K. J. 206
Dehlinger, K. R. 254
Deland, F. S., Jr. 9
Delong, G. R. 167
DeLorme, T. L. 185
DeMaio, E. F. 266
de Marneffe, F. L. A. 228

PAGE

Demone, H. W., Jr. 227
Dennis, E. A. 121
Dennis, M. J. 163
Denny-Brown, B. C. 155
Denny-Brown, D. E. 165
Denton, J. E. 269
Denton, M. D. 148
Deonna, T. W. 168
DePeralto, D. 140
DePierre, J. W. 124
Derow, H. A. 133
DeSanctis, R. W. 133
Desautels, R. E. 262
Desser, R. K. 155
Deutsch, E. 142
Deutsch, S. 258
Deverter, J. S. 241
De Wan, C. J. 196
Dewar, A. K. 266
Dews, P. B. 226
Dexter, C. J. 266
Dexter, L. 130
Deykin, D. 133
Diamond, I. F. 121
Diamond, L. K. 325
Diamandopoulos, G. T. 195
Diamond, L. K. 203
Di Bona, D. R. 148
Di Bona, G. F. 148
Dickersin, G. R. 197
Dickson, W. A. 207
DiCorato, A. 121
DiDonna, G. J. 155
Dienel, G. A. 124
Dillon, C. D. 7
DiMascio, A. 231
Dine, R. F. 266
Dineen, J. J. 155
Dingman, J. F. 135
Dinsmore, P. R. 235
Dinsmore, R. E. 252
Di Polo, R. V. 220
Dismukes, W. E. 146
Ditmore, D. A. 238
Diwadkar, S. B. 273
Dixon, J. P. 9
Dluhy, R. G. 149

PAGE

Dmochowski, J. R. 269
Dobrzinsky, S. J. 146
Dodson, J. W. 107
Dohlman, C. H. 180
Dolin, R. 155
Donaldson, D. D. 180, 184
Donaldson, G. A. 260
Donovan, W. B. 241
Dooling, E. C. 168
Dorman, J. M. 244
Dorsey, J. F. 266
Dorsey, J. L. 142
Dorsey, W. R. 207
Dotter, W. E. 187
Dowd, S. R. 118
Dowd, T. J. 176
Doyle, B. B. 244
Dratch, M. 142
Dragacevic, S. 269
Draskoczy, P. R. 215
Dreier, T. 238
Dresden, M. H. 149
Dressler, D. P. 262
Dreyfuss, J. R. 251
Drinker, P. A. 261
Driscoll, J. J. 174
Driscoll, S. G. 194
Driver, W. R., Jr. 9
Drooker, J. C. 190
Drorbaugh, J. E. 204
Drum, D. E. 118
Dube, W. J. 149
Duff, A. W. 197
Duncan, C. J. 173
Dunning, J. M. 12
Dunphy, E. B. 325
Durodola, J. I. 149
Dushman, M. B. 241
Dvorak, A. M. 198
Dvorak, H. F. 196
Dwyer, T. F. 227
Dykens, J. W. 230
Dyer, E. C. 207
Eades, C. F. 176
Earle, R., Jr. 207
Easterday, C. L. 173
Easton, W. S. 262

PAGE

Eaton, C. F., Jr. 9
Eaton, M. D. 111
Ebert, M. H. 244
Ebert, R. H. 10, 12, 91, 130
Eckhardt, L. O. 241
Edalji, A. 210
Eddington, N. A. 231
Eddy, E. M. 107
Eden, M. 222
Edwards, A. G., Jr. 191
Edwards, E. A. 106
Egbert, L. D. 258
Ehrmann, R. L. 195
Eichberg, J., Jr. 118
Ein, D. 155
Eisenberg, L. 226
Eisendrath, R. M., Jr. 235
Eldred, S. H. 227
Eldredge, LeR. L., Jr. 207
Eliot, T. H. 7
Elk, S. A. 253
Ellingsen, B. A. 182
Elliott, O. 7
Ellis, D. S. 133
Ellis, L. B. 130
Ellison, R. C. 205
Ellman, L. L. 155
Elstein, A. S. 231
Elzinga, M. G. 168
Embree, L. J. 167
Emerson, K., Jr. 130
Emmannuel, H. N. 238
Enders, J. F. 325
Engel, L. L. 116
England, A. C., Jr. 167
Engle, R. P., Jr. 235
English, J. T. 230
Eppinger, E. C. 130
Epstein, S. H. 165
Epstein, S. S. 196
Eraklis, A. J. 262
Erbe, R. W. 121
Ervin, F. R. 226
Esmiol, P. 238
Essember, L. J. 207
Evans, G. L. 149
Evans, G. W. 197

PAGE

Everett, H. C. 235
Ewalt, J. R. 226
Fager, C. A. 266
Fahimi, H. D. 195
Fairclough, G. F. 121
Falchuk, Z. M. 155
Falxa, M. L. 198
Fam, A. H. S. 106
Farber, S. 193
Farhadi, A. M. 241
Farnham, J. E. 149
Farr, D. 149
Farrell, T. A. 182
Farrington, G. H. 269
Fawcett, D. W. 19, 106
Fay, F. 220
Fearer, N. H. 207
Federman, D. D. 10, 12, 39, 133
Feeney, J. J. 11, 12
Feig, S. A. 210
Feinbloom, R. I. 207
Feingold, A. H. 235
Feingold, D. S. 133
Feld, S. 149
Feldman, C. L. 231
Feldman, D. 197
Feldman, R. G. 166
Feldman, T. 146
Felig, P. 149
Fellers, F. X. 203
Fencl, M. deM. 118
Fencl, V. 219
Ferguson, C. F. 190
Ferguson, R. 140
Feria-Velasco, A. 198
Fern, D. J. 235
Ferrer Reyes, P. L. 210
Ferris, E. J. 253
Ferrucci, J. T. 253
Fersch, E. A., Jr. 241
Fessas, P. 205
Fiascone, A. D. 207
Fiedler, M. F. 232
Field, M. 142
Fienberg, R. 195
Filler, R. M. 258
Finch, E. D. 149

PAGE

Finck, A. J. 262
Fine, J. 325
Fineman, A. D. 235
Finesinger, J. L. 244
Finkel, R. M. 149
Finland, M. 325
Finstein, I. F. 235
Fisch, H. P. 149
Fischbein, J. W. 136
Fischberg, B. W. 239
Fischer, E. G. 269
Fischer, J. E. 273
Fisher, J. N., Jr. 207
Fisher, C. M. 165
Fisher, M. 128
Fisher, R. D. 220
Fiske, C. H. 325
Fitzgerald, M. J. 269
Fitzpatrick, T. B. 127
Fiumara, N. J. 127
Flacke, J. W. 261
Flacke, W. E. 215
Flake, C. G. 190
Flamenbaum, W. 149
Fleming, A. M. 239
Flanagan, J. M. St. F. 142
Flax, M. H. 194
Flaxman, B. A. 127
Fleischli, D. J. 253
Fleischner, F. G. 325
Fleming, T. C. 167
Fletcher, J. 149
Flocks, J. S. 244
Flynn, C. J. 269
Flynn, R. E. 168
Flynn, W. F. 262
Folch-Pi, J. 116
Foley, G. E. 195
Folkman, M. J. 256
Folsom, M. B. 9
Foo-canto, L. L. 216
Forbes, A. P. 133
Forbes, I. J. 139
Ford, F. L. 91
Ford, L. E. 149
Forman, R. 146
Forrest, J. N., Jr. 222

PAGE

Forrester, D. M. 253
Forrester, J. S. 149
Forward, S. A. 143
Foster, G. S. 136
Fowler, J. W., III 207
Fowler, H. L. 168
Fox, E. O. 197
Fox, H. M. 226
Fozard, J. L. 232
Fraenkel, D. G. 111
Fraenkel, W. A. 230
Franco, D. J. 269
Frank, A. A. 207
Frank, E. 164
Frank, E. D. 258
Frank, H. A. 257
Frank, J. L. 244
Frank, T. 235
Frankel, B. L. 244
Frankel, F. H. 228
Franklin, W. 143
Frazier, C. N. 325
Frazier, H. S. 131
Fredericks, M. A. 205
Freedberg, A. S. 131
Freedberg, I. M. 127
Freeman, D. C. 163
Freeman, H. M. 181
Freese, C. G. 181
Freiman, D. G. 193
Fremont-Smith, K. 143
Fremont-Smith, P. 136
Freymann, J. G. 222
Fricker, S. J. 181, 184
Friedberg, D. Z. 210
Friedlander, G. H. 149
Friedlich, A. L. 136
Friedman, E. W. 263
Friedman, H. J. 235
Friedman, L. J. 235
Friend, D. G. 133
Friendly, H. J. 7
Frigoletto, F. D. 174
Fromm, D. G. 269
Frothingham, T. E. 278
Fung, C. H. 199
Funkenstein, D. H. 227

PAGE

Funkhouser, R. K. 143
Furman, E. B. 266
Furshpan, E. J. 163
Fuwa, K. 118
Fyler, D. C. 203
Gabathuler, M-P. I. 216
Gabbay, K. H. 146
Gabriel, R. W. 263
Gacek, R. R. 190
Gaensler, E. A. 261
Gair, D. S. 235
Galdston, R. 229
Gall, D. G. 209
Gallagher, F. P. 239
Gallagher, P. G. 263
Gallagher, W. F. 127
Gallant, D. H. 232
Galvanek, E. G. 198
Gamble, W. J. 204
Ganju, A. K. 196
Gans, J. S. 244
Garceau, A. J. 143
Garcia, G. E. 181
Garcia, J. 259
Gardella, J. W. 10, 12, 135
Gardner, G. E. 226
Gardner, L. B. 155
Gardner, R. C. 149
Gardos, G. 241
Gargill, S. L. 325
Garibaldi, R. A. 155
Garner, F. B. 211
Garner, T. H. 205
Garran, F. W., Jr. 266
Garrick, N. H., Jr. 9
Garvin, W. L. 10
Gary, J. E. 251
Gascon, G. G. 170
Gates, C. C. 244
Gates, P. H. 235
Gaudio, A. R. 182
Gauld, A. G. 174
Gavalya, A. 241
Gavalya, R. N. 241
Gavan, D. T. 241
Gazzaniga, A. B. 273
Geffin, B. 263

PAGE
Gehring, J. R. 181
Geiger, H. J. 143
Gelb, L. D. 155
Gelber, G. S. 244
Geller, M. 239
Gellis, S. S. 205
Genack, A. 244
George, B. C. 140
Geraci, G. 118
Gerald, P. S. 203
Gergely, J. 117
Geronimus, L. H. 196
Gerschenfeld, H. M. 164
Gershon, E. S. 244
Gerstein, J. F. 143
Gertler, R. 241
Geschwind, N. 165
Gezon, H. M. 205
Giannella, R. A. 146
Gibbs, R. F. 266
Gibbs, R. W. 263
Gibson, J. M. 197
Gifford, G. E. 235
Gifford, G. H., Jr. 263
Gifford, S. R. 227
Gigli, I. P. 140
Giles, G. R. 269
Gill, B. F. 235
Gill, T. J., III 194
Gilles, F. H. 166
Gilliam, J. I. 253
Gillies, H. G. 187
Gilligan, J. F. 244
Gillespie, L. 174
Gilman, S. 260
Gilmore, C. E. 196
Gilmour, D. P. 149
Ginsberg, M. D. 168
Ginsburg, A. D. 149
Glaser, R. J. 9
Glass, E. A. 120
Glass, K. D. 261
Gleason, R. E. 140
Glick, H. 187
Glick, J. J. 155
Glicklich, E. A. 128
Glimcher, M. J. 12, 185

PAGE
Glines, G. A. 209
Glotzer, D. J. 260
Gochberg, S. H. 174
Godwin, H. A. 149
Gold, N. I. 205
Gold, W. M. 204
Goldberg, A. L. 220
Goldberg, I. H. 11, 130
Goldblatt, A. 204
Goldblatt, J. E. 263
Goldfein, M. L. 211
Goldfine, C. 216
Goldfine, H. 111
Goldfine, P. E. 235
Goldfinger, S. E. 136
Goldhaber, P. 10, 12, 91
Goldings, C. R. 235
Goldings, H. J. 235
Goldman, G. C. 128
Goldman, H. 195
Goldman, J. M. 149
Goldsmith, L. A. 128
Goldsmith, P. L. 155
Goldsmith, R. S. 133
Goldstein, D. P. 174
Goldstein, E. 143
Goldstein, L. 219
Goldstein, M. A. 146
Goldstein, S. 209
Goldstone, J. 149
Goldthwait, J. C. 143
Goldwater, R. P. 244
Goldwyn, R. M. 260
Golub, S. 244
Gonzalez, E. 269
Gonzalez-Sastre, F. 121
Goodman, A. C. 190
Goodman, D. J. 253
Goodman, H. M. 219
Goodman, M. L. 197
Goodrich, C. A. 107
Goodwin, J. A. 266
Gorbach, A. C. 174
Gorbach, I. E. J. 207
Gordon, A. H. 8
Gordon, A. S. 121
Gordon, S. K. 266

PAGE

Gore, H. 194
Gore, I. 195
Gorelick, K. P. 244
Gorini, L. 111
Gorlin, R. 133
Gorman, A. G. 244
Goslyn, H. 219
Gottler, J. 146
Gottlieb, A. A. 136
Gottlieb, L. S. 195
Gottlieb, M. S. 143
Gould, D. C. 117
Grable, E. 263
Grady, G. F. 222
Graeff, F. G. 216
Graham, J. 187
Graham, J. H. 195
Graham, J. M. 121
Graham, J. R. 139
Graham, K. M. 143
Gramm, H. F. 253
Grant, H. A., III 254
Grant, W. M. 180, 184
Gravallese, M. A., Jr. 146
Gray, B. 232
Gray, E. B., Jr. 263
Gray, S. J. 139
Greatrex, G. H. 269
Green, J. 239
Green, K. F. 241
Green, S. 239
Green, T. H., Jr. 173
Green, W. T. 325
Green, W. W. C. 266
Greenberg, H. L. 263
Greenberg, M. S. 143
Greenblatt, M. 230
Greene, R. E. 149
Greenfield, S. 155
Greengard, O. F. 118
Greenstein, J. L. 7
Greenwell, J. B. 273
Greep, R. O. 106
Gregory, E. A. 207
Griesemer, R. D. 127
Greenberg, R. M. 235
Griffin, P. P. 185

PAGE

Griffith, D. D. 244
Griffith, J. F. 168
Griffiths, C. T. 175
Grillo, H. C. 257
Grinspoon, L. 226
Griscom, N. T. 253
Gregg, W. I. 174
Groome, B. A. 244
Gross, I. 263
Gross, J. 131
Gross, P. A. 146
Gross, R. E. 256
Grossfield, R. M. 164
Grossman, J. H. 149
Grossman, W. 155
Grover, J. W. 175
Grunebaum, H. U. 227
Grunebaum, M. 254
Grunfeld, J-P. 220
Gryboski, J. S. 136
Guild, W. R. 136
Gulbrandsen, C. L. 149
Gunderson, J. G. 245
Guralnick, E. A. 263
Gurewich, V. 136
Gurian, B. S. 245
Guthiel, T. G. 245
Guthrie, A. D., Jr. 207
Guthy, E. 270
Guttman, R. D. 140
Guttmacher, J. A. 245
Haber, E. 131
Hackett, N. R. 121
Hackett, T. P. 229
Haddow, J. E. 207
Haendel, F. 239
Haessler, H. A. 207
Haft, J. I. 149
Hager, E. B. 143
Hagopian, P. B. 239
Halford, M. D. A. 122
Hall, A. P. 136
Hall, T. C. 133
Hall, Z. W. 163
Hallowell, P. 258
Hamilton, A. E. 199
Hamilton, D. W. 106

PAGE

Hamilton, G. E. 245
Hamlin, E., Jr. 257
Hamlin, H. 263
Hammer, E. I. 143
Hampers, C. L. 143
Hampton, J. R. 143
Handin, R. I. 155
Handwerger, S. 210
Hanna, W. M. 239
Hanson, G. 241
Hanson, R. A. 168
Hantman, D. A. 155
Hanzelik, E. S. 155
Harburger, J. S. 245
Harcus, T. 146
Hardy, H. L. 135
Hardy, I. B. 266
Hardy, M. A. 270
Harken, D. E. 256
Harley, N. R. 245
Harper, E. 143
Harper, R. S. 198
Harrar, J. G. 9
Harris, A. J. 164
Harris, C. A. 198
Harris, E. D., Jr. 143
Harris, G. B. C. 252
Harris, J. L. 199
Harris, W. H. 185
Harrison, J. H. 256
Harrison, R. H. 232
Hartgering, J. B. 222
Harthorne, J. W. 143
Hartman, J. F. 122
Hartman, S. C. 117
Hartmann, L. M. 242
Hartsuck, J. M. 273
Haschemeyer, A. E. V. 136
Hasenbush, L. L. 229
Hashiba, K. 140
Hass, G. 207
Hastings, A. B. 326
Hauser, G. 117
Hauser, S. T. 245
Hausman-Hagemeijer, A-M. .. 210
Havens, L. L. 226
Hawes, L. W. 252

PAGE

Hawkins, R. 220
Hawrylko, E. A. 149
Hay, E. D. 13, 106
Hayashi, K. 119
Hayashi, M. 196
Hayashida, H. 122
Haycox, J. A. 235
Hayden, W. L. 190
Haynes, F. W. 140
Haynes, H. A. 128
Hazard, G. W. 207
Hazard, S. W. 207
Hazrati, S. 270
Head, J. M. 266
Head, W. C. 187
Heagarty, M. C. 207
Healey, S. J. 263
Heath, P. 326
Hedberg, S. E. 266
Hedley-Whyte, E. T. 167
Hedley-Whyte, J. 257
Heerdegen, D. K. 266
Heidger, P. McC., Jr. 107
Heilman, K. M. 168
Heizer, W. D. 149
Helfand, Z. 263
Helfant, R. H. 149
Heller, K. 230
Hellerstein, E. "E" 194
Hellerstein, L. J. 140
Hellman, D. E. W. 219
Hellman, E. S. 136
Hellman, S. 251
Helman, M. E. 128
Hemmer, S. J. 222
Henderson, A. H. 140
Henderson, B. M. 266
Hendrick, I. 326
Hendren, W. H., III 260
Henneman, E. 219
Hennessey, J. W. 270
Henriksen, H. T. 266
Henshaw, E. C. 136
Hepps, R. B. 245
Heptinstall, R. H. 193
Herberg, K. 169
Herbst, A. L. 174

PAGE

Herd, J. A. 219
Herman, M. V. 143
Hermann, H. T. 227
Hermanson, L. 260
Herner, A. E. 119
Herrin, J. T. 210
Hersch, C. 232
Hersey, F. C. 235
Hershberg, R. A. 199
Hershman, H. A. 266
Herskovits, J. J. 143
Hertig, A. T. 90, 193
Herzan, F. A. 252
Herzan, H. M. 235
Herzberg, J. H. 242
Hess, H. H. 167
Hiatt, H. H. 130
Hickler, R. B. 133
Hicks, R. E. 270
Hiebert, C. A. 266
Higgins, E. A., Jr. 146
Higuchi, T. 122
Hildebrand, J. 122
Hill, D. A. 266
Hill, J. M. 181
Hill, L. T., Jr. 266
Hill, M. J. 235
Hill, W. R. 127
Hinckley, R. H. 181
Hinman, C. H. 175
Hipona, F. A. 251
Hiraide, F. 191
Hiramatsu, K. 254
Hirsch, C. A. 136
Hirschhorn, N. 150
Hirschmann, P. N. 150
Hirschowitz, R. G. 232
Hirshfield, I. N. 140
Hixon, J. E. 107
Hoar, C. S., Jr. 263
Hobbs, J. B. 199
Hobbs, K. E. 270
Hobson, J. A. 229
Hodgkinson, B. J. 182
Hoedemaeker, P. J. 107
Hoffer, A. 235
Hoffman, L. I. 211

PAGE

Hoffman, R. S. 150
Hofman, W. I. 199
Hofmann, R. R. 107
Hogan, M. A. 163
Hoguet, R. L., Jr. 7
Holden, R. B. 143
Holder, R. 235
Holdsworth, D. E. 143
Holl-Allen, R. T. 270
Hollenberg, N. K. 251
Hollister, J. R. 212
Holmes, L. B. 207
Holmquist, B. 122
Holsclaw, D. S., Jr. 207
Holtzman, J. H. 242
Honey, D. P. 182
Honeyman, T. W. 220
Hood, G. H., Jr. 9
Hood, W. B., Jr. 136
Hoop, B., Jr. 150
Hopkins, C. C. 155
Hori, C. G. 199
Hori, Y. 128
Horisberger, M. A. 113
Horne, H. W., Jr. 176
Hornig, D. F. 7
Horwitz, L. 150
Hotelling, D. R. 150
Houghton, A., Jr. 7
Houk, J. C. 220
Howard, F. A. 143
Howard, P. M. 227
Howard, S. D. 235
Howe, L. P. 227
Howland, J. S. 242
Howry, D. H. 253
Hoye, S. J. 263
Hubbell, J. P., Jr. 207
Hubel, D. H. 163
Hudson, B. G. 122
Hudson, C. L. 235
Hudspeth, A. J. 221
Hugenberger, P. W. 185
Hugenholtz, P. G. 205
Huggins, C. E. 258
Hughes, M. C. 239
Huizenga, C. G. 199

PAGE

Huizenga, J. N. 242
Humes, R. M. 150
Hunt, R. D. 196
Huott, A. D. 169
Hurwitz, D. 130
Husain, M. 270
Huszar, G. B. 169
Hutcheson, B. R. 228
Hutchinson, B. T. 180
Hutchison, D. 242
Hutter, A. M., Jr. 155
Hyde, A. P. 239
Hyslop, N. E., Jr. 143
Idowu, O. A. 169
Igarashi, S. 150
Ihler, G. M. 122
Ilagan, L. M. 245
Ilahi, M. A. 270
Im, J. H. 122
Incze, J. S. 197
Indarakoses, A. 169
Ingall, D. 207
Ingbar, S. H. 131
Ingersoll, F. M. 173
Ingle, D. J. 232
Ippen, K. A. 113
Irving, J. T. 326
Irwin, J. W. 190
Isaacson, P. G. 197
Ise, C. 245
Isenberg, P. L. 236
Ishizuka, Y. 245
Israel, M. 119
Isselbacher, K. J. 13, 130
Ito, S. 106
Ito, Y. 122
Jackson, C. E. 191
Jackson, D. H. 155
Jackson, J. H. 143
Jackson, R. G. 175
Jacobs, L. S. 245
Jacobson, B. M. 136
Jacobson, W. 167
Jacoby, G. A., Jr. 136
Jacquemin-Sablon, A. 122
Jaffe, S. L. 245
Jain, K. K. L. C. 209

PAGE

Jakab, I. 229
James, L. P., Jr. 198
James, R. L. 232
James, W. P. T. 150
Jan, W-F. 210
Jandl, J. H. 13, 130
Janeway, C. A. 203
Janicki, R. H. 220
Janower, M. L. 253
Jaton, J. 150
Jeanloz, R. W. 116
Jedziniak, J. A. 181, 184
Jeekel, J. 270
Jeffery, R. L. 143
Jeffrey, F. E. 150
Jenney, P. B. 236
Jennings, R. K. 242
Jeri, F. R. 166
Jessiman, A. G. 135
Jewett, J. F. 173
Jockin, H. 195
Joel, C. D. 230
Joel, P. B. 119
Joffe, N. 252
Johannet, P. 239
Johnson, B. P. 245
Johnson, C. C. 180
Johnson, C. H. 263
Johnson, J. E. 150, 261
Johnson, L. D. 196
Johnson, R. A. 191
Johnston, H. H., Jr. 150
Johnston, L. C. 242
Joison, J. 270
Jolly, M. A. H. 242
Jones, C. M. 10, 326
Jones, J. E. 273
Jones, L. G. 219
Jones, T. C. 193
Jones, T. H. D. 122
Jones, W. N. 186
Joseph, A. T. 266
Joseph, J. B. 207
Josephson, B. L. 114
Judd, H. L. 177
Julian, B. M. 236
Julian, F. J. 167

PAGE

Jungas, R. L. 117
Junker, B. J. 263
Kaden, W. S. 143
Kaempfer, M. S. 210
Kagan, H. M. 122
Kagey, K. S. 266
Kagi, J. H. R. 133
Kahana, E. M. 239
Kahana, R. J. 229
Kahn, A. 239
Kahn, E. 236
Kahn, J. B. 155
Kahne, M. J. 229
Kahri, A. I. 107
Kaitz, A. L. 143
Kalckar, H. M. 116
Kaliss, N. 261
Kalivas, J. T. 128
Kaloustian, H. D. 143
Kameny, S. M. 242
Kaminer, B. 107
Kaminskas, E. 143
Kaminski, B. K. 263
Kan, Y. W. 206
Kane, J. G. 177
Kane, R. K. 6
Kaneko, A. 164
Kang, A. H. 143
Kannel, W. B. 222
Kanter, S. S. 229
Kantrowitz, P. A. 143
Kaplan, D. 254
Kaplan, E. 209
Karavolas, H. J. 119
Karnovsky, M. J. 193
Karnovsky, M. L. 116
Kasarjian, P. H. 143
Kasdon, E. J. 197
Kashket, E. R. 219
Kass, E. H. 13, 131
Kastor, J. A. 144
Kater, R. M. H. 150
Kato, F. 187, 270
Katz, B. A. 245
Katz, E. P. 186
Katz, R. A. 209
Katz, S. L. 204

PAGE

Katzman, R. L. 122
Kaufman, I. 236
Kaul, S. 169
Kaumann, A. J. 215
Kay, R. G. 270
Kayce, M. M. 236
Kazanjian, V. H. 326
Kazemi, H. 136
Keamy, D. G. 191
Keeley, A. F. 198
Keevil, C. S., Jr. 146
Kelleher, R. T. 215
Keller, R. B. 188
Kellett, M. A. 253
Kelley, D. H. 198
Kelley, P. L. 236
Kelley, R. M. 133
Kelly, L. T. 190
Kelly, M. J., Jr. 245
Kemp, H. G. 144
Kemper, T. L. 167
Kendall, L. G. 263
Kenerson, R. F. 245
Kennedy, E. P. 116
Kennedy, S. 6, 8
Kenzora, J. E. 187
Keon, W. J. 140
Keppel, F. 8, 9
Kermond, W. L. 186
Kerr, C. 9
Kerr, W. S., Jr. 258
Kessel, D. H. 198
Kesselman, R. H. 133
Kety, J. G. 207
Kety, S. S. 226
Keuper, C. S. 128
Keutmann, H. T. 144
Kevorkian, A. Y. 176
Kevy, S. V. 204
Keyes, P. L. 107
Keynes, W. M. 261
Khantzian, E. J. 236
Khaw, K. T. 207
Khoury, D. W. 210
Kiang, N. Y. 190
Kidani, Y. 118
Kim, C. 150

PAGE

Kim, I. 177
Kim, W. K. 245
Kimata, S. 150
Kimura, R. S. 190
King, H. S. 207
King, M. F. 198
King, M. V. 140
King, N. W., Jr. 196
Kini, M. M. 183
Kinoshita, J. H. 180, 184
Kirchberger, M. A. 150
Kirk, E. J. 167
Kirklin, J. W. 256
Kish, L. S. 199
Kistner, R. W. 173
Kjellberg, R. N. 258
Klastersky, J. A. 146
Klavens, G. S. 239
Klayman, M. I. 144
Klebanoff, L. B. 230
Kleeman, S. T. 146
Klein, H. A. 122
Klein, J. O. 204
Klein, R. 205
Klein, S. W. 216
Kleine, L. J. 254
Klemperer, M. R. 205
Kliman, A. 144
Kliman, B. 136
Kline, I. K. 195
Kline, T. S. 197
Klotz, R. E. 190
Klumpp, T. G. 9
Knoth, M. 198
Knowles, J. H. 135
Knox, J. W. D. 267
Knox, W. E. 116
Knox-Macauley, H. M. 150
Knuttgen, H. G. 140
Ko, K. W. 206
Koch, J. P. 118
Koch-Weser, D. 10, 12
Koch-Weser, J. 215
Koff, R. S. 150
Kohl, J. C., Jr. 252
Kohn, H. I. 251
Kojima, T. 122

PAGE

Kojima, Yasushi 270
Kojima, Yoko 150
Kojima, Yutaka 122
Koller, A. N. 11
Konrad, E. B. 114
Konugres, A. A. 174
Kopans, D. E. 175
Kopito, L. 206
Kopriva, C. J. 270
Kornfield, M. A. 210
Kornguth, P. J. 216
Kosa, J. 204
Kosasky, H. J. 175
Kostas, C. I. 267
Kothari, M. 177
Kothari, M. L. 270
Koufman, C. N. 267
Koumans, A. J. R. 236
Koumans, R. K. J. 270
Kozak, G. P. 144
Kraft, J. W. 254
Kramer, B. M. 230
Kramer, D. 128
Krane, S. M. 131
Kranes, A. 130
Kravitz, A. R. 236
Kravitz, E. A. 163
Krayer, O. 326
Krejcy, K. 270
Kris, K. B. 239
Kritzman, J. 144
Kubzansky, P. E. 232
Kudarauskas, E. N. 236
Kuffler, S. W. 13, 163
Kuftinec, D. M. 239
Kulka, J. P. 193
Kumar, R. 150
Kundawala, I. M. 273
Kundsin, R. B. 261
Kunz, L. J. J. 111
Kurkjian, J. M. 191
Kurland, G. S. 131
Kurtz, David I. 113
Kury, G. 197
Kuwabara, T. 180, 184
Kvaraceus, W. C. 232
Kyner, J. L., Jr. 150

PAGE

Laasberg, L. H. 261
Ladoulis, C. T. 198
LaFarge, C. G. 205
LaForce, F. M. 155
Laforet, M. T. 206
Laga, E. M. 197
Lahiri, S. R. 146
Lambdin, M. A. 207
Lambdin, S. J. 267
Lambert, B. W. 183
Lambert, P. B. 261
Lamkins, B. E. 128
Lamont, J. H. 229
Land, V. J. 150
Lander, R. A. 245
Landis, E. M. 326
Landowne, M. 133
Landsman, E. 236
Lane, F. C. 270
Lane, F. R. 175
Lang, D. J. 205
Lang, E. F., Jr. 267
Lange, Y. 220
Langston, D. R. P. 183
Lapiere, C. M. 127
Lappas, D. G. 267
Laraia, P. J. 150
Large, D. G. 119
Lasek, R. J. 169
Latt, S. A. 124
Latzina, A. 270
Lauler, D. P. 133
Lave, J. H. 231
Laver, M. B. 258
Lavine, R. L. 150
Lawlor, R. C. 182
Lawson, G. B. 236
Lawton, T. J. 206
Lazare, A. 229
Lazarus, G. S. 128
Lazenby, G. W. 183
Leach, R. E. 187
Leadbetter, W. F. 256
Leaf, A. 130
Leak, L. V. 263
Learson, T. V. 7
Leary, J. M. 212

PAGE

Leatham, A. 139
Leav, I. 198
Leavitt, T., Jr. 175
LeCompte, P. M. 193
Lederer, R. A. 239
Ledewitz, H. M. 147
Lee, D. N. 232
Lee, F. B. 263
Lee, K. W. 239
Lee, L. 267
Lee, P. R. 9
Lee, S. S. 10, 12
Lee, Y. H. 210
Leeman, C. P. 236
Lees, M. B. 119
Lees, R. S. 139
Leeuwen, M. V. 216
Leff, H. S. 242
Leibovich, M. A. 239
Leighton, H. T. 175
Legg, M. A. 195
Lehrer, S. S. 169
Lehrich, J. R. 169
Leicester, J. 169
Leinbach, R. C. 144
Leland, O. S., Jr. 147
Lele, P. P. 261
Lelos, D. 232
Lemay, M. J. 251
Lerner, M. A. 252
Lerona, P. T. 254
Leroy, J. G. A. 206
Lesch, M. 150
Leshin, S. J. 147
Leskowitz, S. 111
Leston, J. A. 122
Levene, D. L. 155
Levene, M. B. 252
Levenson, S. S. 267
Lever, W. F. 127
Levey, R. H. 260
Levi, V. M. 242
Levin, S. 229
Levine, B. W. 150
Levine, H. D. 131
LeVine, H. O. 239
Levine, M. A. 242

PAGE

Levine, Marshall D. 177
Levine, Melvin D. 212
Levine, Melvyn B. 212
Levy, B. S. 236
Levy, H. L. 167
Levy, P. S. 222
Lewicki, A. M. 252
Lewis, A. S. 188
Lewis, D. C. 136
Lewis, D. K. 190
Lewis, E. J. 150
Lewis, H. T. 245
Lewis, R. M. 198
Leyton, R. A. 140
Li, T. 118
Lichtenstein, N. S. 144
Liebman, S. D. 181
Liebowitz, S. 187
Liedtke, A. J. 150
Lightman, D. J. 267
Like, A. A. 195
Lin, E. C. C. 111
Lin, J. L. 112
Lindemann, E. 326
Linekin, D. M. 140
Linenthal, A. J. 131
Lingeman, A. J. 197
Lingeman, B. S. 181
Linnell, Z. M. 236
Lion, J. R. 242
Lipinski, J. F. 242
Lipsitt, D. R. 236
Lisco, H. 10, 195
Liss, R. A. 155
Litman, L. 239
Litner, R. H. 263
Litt, M. 111
Littlefield, J. W. 204
Littmann, D. 134
Litwin, S. B. 267
Livingstone, J. B. 239
Lloyd-Still, J. D. 212
Locke, S. 165
Lockhart, A. J. 144
Lofgren, R. H. 190
Lokich, J. J. 147
Lombroso, C. T. 165

PAGE

London, A. M. 147
Longabaugh, R. 229
Loomis, A. L., Jr. 9
Lopez-Amor, E. 151
Lorenz, M. 229
Lorenzo, A. V. 167
Lovejoy, F. H., Jr. 212
Low, I. E. 112
Lowell, F. C. 134
Lowell, J. D. 186
Lowenstein, E. 260
Lowenstein, L. M. 232
Lowenstein, M. S. 155
Lowey, S. 117
Lowis, S. 263
Lowrie, E. G. 151
Lowy, C. 141
Lowy, M. 187
Lubbe, W. F. 151
Lubin, B. H. 210
Lubin, M. 215
Lucas, J. E. 144
Ludden, J. M. 245
Ludwig, A. O. 229
Ludwig, P. C. 242
Lund, C. C. 326
Lundgren, O. B. 219
Lurie, H. J. 245
Lyman, C. P. 106
Lynch, G. W. 144
Lynch, J. A. 267
Lynch, J. P. 191
Lyon, D. C. 270
Maayan, M. L. 141
MacArthur, J. D. 263
MacAusland, W. R., Jr. 186
MacCollum, D. W. 258
MacDonald, A. S. 270
MacDonald, A. S., Jr. 207
Macdonald, J. B. 9
MacDonald, G. J. 107
MacHattie, L. A. 117
Macht, L. B. 242
Mack, J. E. 228
Mackay, H. A. 167
MacKenzie, J. M. 229
Mackie, J. E. 144

	PAGE
MacMahon, N. K.	151
Macmillan, A. S., Jr.	253
MacNaughton, D. A.	236
Madras, P. N.	270
Mahabir, R. K. N.	151
Mahoney, E. J.	267
Mahoney, E. M.	260
Mahoney, T. R.	147
Mahony, D. T.	263
Maisels, M. J.	210
Majno, G.	193
Makkay, E. S.	229
Makene, W. J.	151
Maki, D. G.	155
Makita, A.	119
Maldonado, A.	253
Maletskos, C. J.	196
Maletzky, A. J.	210
Malkiel, S.	196
Malone, L. J.	175
Maloof, F.	134
Malt, R. A.	258
Maltsberger, J. T.	236
Manchester, J. H.	151
Mangel, R.	151
Mann, W.	236
Manning, M. D.	206
Mansfield, J. S.	144
Mansfield, P. B.	273
Manson, J. G.	186
Manzi, R. A.	267
Marble, A.	326
Marbury, W. L.	6
Marcello, D. E., Jr.	263
March, H. L.	242
Marcovitch, J. H.	176
Marcus, P. S.	263
Marcy, S. M.	209
Margulis, R. H.	177
Mark, V. H.	257
Markis, J. E.	216
Marks, A. N.	245
Markus, H. B.	122
Marlborough, D. I.	123
Marliss, E. B.	151
Marnoy, R.	176
Marr, M. J.	216
Marsh, E. B., Jr.	211
Martin, A. R.	155
Martin, D. B.	134
Martin, J. K.	169
Martinez-Aguirre, E.	264
Martino, J. A.	144
Marvit, R. C.	242
Masamune, Y.	123
Masland, R. P., Jr.	205
Mason, B. F.	10
Mason, E. A.	228
Mason, J. W.	199
Massell, B. F.	203
Masson, R. G.	155
Masters, R.	127
Matkovic, C. S.	114
Matloff, J. J.	144
Matloff, J. M.	260
Matson, D. D.	256
Matsui, K.	128
Matsuo, Y.	151
Matter, A.	198
Matz, M. H.	128
Matzilevich, B.	168
Mayer, J.	232
Mayman, C. I.	165
Maynard, E. P., III	144
Mayo, C. W.	232
McArthur, J. W.	173
McCann, J. B.	176
McCarley, R. W.	242
McCarter, R. H.	229
McCarthy, P. L.	128
McCarthy, P. W.	242
McCarthy, R. E.	196
McCaughan, D.	144
McClellan, S. G.	236
McConaghey, P. D.	187
McCormack, G. H.	212
McCormack, W. M.	155
McCrory, D. J.	239
McCully, K. S.	197
McDaniel, L. T.	144
McDermott, W.	9
McDermott, W. V., Jr.	256
McDonald, A.	112
McDonald, F. C.	207

PAGE

McDonald, F. D. 151
McDonough, E. F. 264
McEwan, P. J. M. 229
McFarland, J. C. 155
McGarry, A. L. 231
McGinty, J. B. 186
McGlashan, T. H. 245
McGovern, J. J. 207
McGowan, B. K. 242
McGowan, J. E., Jr. 155
McGugan, A. D. 128
McGuire, M. T. 236
McHugh, E. R. 212
McInerny, T. K. 212
McIntyre, H. D., Jr. 167
McIntyre, N. 151
McKearney, J. W. 236
McKeigue, J. E. 190
McKenna, G. J. 245
McKittrick, J. B. 264
McKittrick, L. S. 326
McLachlan, M. S. F. 254
MacLaren, J. A. 174
McLaughlin, W. F. 236
McLean, D. R. 169
McMahan, U. J., II 163
McMeel, J. W. 182
McMillin, J. M. 242
McNeely, W. F. 144
McNeil, B. J. 124
McNeill, J. M. 253
McNutt, S. 199
McPeek, B. 264
Meadow, H. C. 10, 12, 91
Meares, P. 219
Mechanic, G. L. 186
Medeiros, A. A. 144
Medlinsky, H. L. 208
Medoff, G. 208
Medoff, J. 144
Megero, K. 242
Mehlman, R. D. 239
Mehra, M. L. 169
Mehrez, M. P. 267
Meienhofer, J. A. 119
Meissner, W. A. 193
Meissner, W. W. 245

PAGE

Meister, S. G. 151
Melbin, M. 232
Melendez, L. V. 112
Melin, M. 206
Mendell, L. M. 220
Mentzel, H. 206
Mentzer, W. C., Jr. 211
Merendino, K. A. 257
Merigan, T. C. 139
Merler, E. 119
Merminod, A. E. 169
Merowitz, M. 245
Merriam, J. C., Jr. 197
Merrifield, J. F. 236
Merrill, D. 137
Merrill, J. P. 131
Merrill, K., Jr. 264
Mertz, J. J. 147
Messner, E. 236
Metcalf, W. S. 139
Metzner, D. M. 191
Mezer, J. 175
Meyers, O. L. 151
Michell, R. H. 123
Michelsen, J. J. 264
Michelson, E. H. 278
Michener, D. P. 232
Michon, J., Jr. 183
Middleton, C. R. 245
Middleton, W. R. J. 151
Milech, A. 151
Miller, C. C. 267
Miller, Daniel 190
Miller, David 182
Miller, E. V. 260
Miller, G. 151
Miller, H. B. 245
Miller, J. H. 114
Miller, L. M. 147
Miller, M. A. 236
Millhouse, O. E. 107
Mills, J. A. 137
Milne, E. N. C. 252
Milner, A. J. 211
Mimica, N. 151
Minna, J. D. 156
Mintz, N. L. 229

PAGE

Mintz, S. B. 239
Mirel, E. 239
Misfeldt, D. S. 156
Mitch, W. E. 156
Mitchell, A. M. 144
Mirsky, I. 134
Misch, R. C. 233
Mishler, E. G. 226
Misra, B. M. 220
Mitry, H. 236
Mitus, A. T. 205
Miyakuni, T. 270
Miyal, K. 123
Miyata, J. 177
Mizumoto, R. 271
Modell, A. H. 229
Modest, E. J. 196
Modolell, J. B. 113, 114
Moellering, R. C., Jr. 151
Moghul, T. H. 260
Mogul, K. M. 236
Mogul, S. L. 236
Mokrasch, L. C. 117
Moldveen-Geronimus, M. 197
Moloney, W. C. 130
Mols, J. M. 245
Momose, H. 113
Momose, K. J. 253
Monaco, A. P. 258
Moncure, A. C. 273
Mondale, J. E. 245
Monier, R. E. 139
Monreal, J. L. 123
Monroe, R. G. 204
Montana, G. S. 253
Montandon, P. 191
Montes-Gallo, D. M. 245
Montgomery, W. W. 190
Montiero Da Cunha, J. E. 271
Moolten, F. L. 144
Moore, E. W. 147
Moore, F. D. 256
Moore, M. J. 169
Morest, D. K. 106
Morgan, A. P., Jr. 260
Mori, T. 271
Morikawa, S. 113

PAGE

Morkin, E., Jr. 137
Morris, M. 208
Morris, R. H. 264
Morris, T. A., Jr. 236
Morrison, L. 211
Morrison, R. S. 144
Morrissey, A. T. 114
Morse, L. S. 208
Morse, R. L. 147
Morse, W. H. 227
Morton, B. E. 151
Moser, H. W. 165
Moses, J. M. 137
Moshal, M. G. 147
Mosher, H. A. 181
Moskos, V. 245
Most, A. S. 151
Moxley, J. H., 3d 11, 144
Muckenhausen, C. U. 169
Mueller, B. C. G. 236
Mueller, E. H. 236
Mueller, H. L. 204
Muirhead, D. M., Jr. 208
Mullane, D. J. 264
Mullen, J. J. 239
Mullick, S. C. 271
Mulligan, W. J. 173
Mulliken, J. B. 151
Mulvihill, J. E. 11
Mundth, E. D. 260
Murawski, B. J. 228
Murphy, J. V. 169
Murphy, M. D. 246
Murphy, W. F. 228
Murray, J. E. 257
Murray, N. P. 264
Murray, T. M. 151
Mushatt, C. 231
Musilova, H. A. 271
Musnick, H. 239
Myers, A. R. 151
Myers, G. S. 134
Myerson, D. J. 228
Nadas, A. S. 203
Nadelson, C. C. 239
Nadelson, T. 239
Nag, D. 169

PAGE

Nagay, B. F. 167
Nagle, R. J. 9
Nahum, J. P. 236
Nakano, K. K. 169
Nalebuff, E. A. 186
Nandi, P. K. 151
Nardi, G. L. 257
Nason, J. D. 246
Nason, L. H. 264
Naterman, H. L. 144
Nathan, D. G. 204
Nathan, P. E. 229
Nau, O. S. 208
Nebesar, R. A. 253
Neer, R. M. 144
Neiman, R. S. 199
Nelson, M. H. 246
Nelson, N. M. 204
Nelson, S. H. 246
Nemiah, J. C. 10, 13, 226
Nesson, H. R. 137
Neuhauser, E. B. D. 251
Neva, F. A. 278
Nevinny-Stickel, H. B. 141
New, P. F. J. 252
Newbern, B. L. 151
Newell, J. L. 175
Newman, J. J. 239
Newton, R. A. 264
Niall, H. D. 144
Nicholi, A. M., Jr. 239
Nicholls, J. G. 163
Nichols, F. S. 233
Nichols, G., Jr. 130
Nichols, N. P. 237
Nicholson, D. H. 183
Nickerson, A. L. 6
Nickerson, R. J. 222
Nielsen, S. L. 169
Nigra, T. P. 128
Nikaido, H. 111
Nitze, P. H. 7
Nordberg, E. D. 254
Norman, J. C. 258
Norman, M. G. 169
Norris, R. V. 242
Northrop, D. 123

PAGE

Notman, M. T. 237
Nuzum, C. T. 151
O'Brien, P. I. 186
O'Brien, T. F. 137
O'Brien, W. J. 267
O'Connell, F. D. 188
O'Connor, J. F. 253
O'Connor, N. E. 271
O'Connor, R. E. 183
Ockner, R. K. 152
Ockner, S. A. 141
O'Dea, A. E. 197
O'Donnell, T. F., Jr. 271
Oh, W. H. 188
Oh, Y. H. 119
O'Hara, D. S. 123
O'Hara, E. T. 264
Ohta, Y. 198
Ojemann, R. G. 260
Okamoto, S. 112, 114
Oken, D. E. 137
Olendzki, R. J. 10
Olesen, H. A. 119
Olin, H. S. 237
Olive, G. M., Jr. 182
Oliynyk, P. N. 271
Olson, C. B. 215
Olson, R. E. 147
Olsson, O. 252
Olszewski, W. L. 271
Omoto, R. 271
O'Neill, C. H. 123
Onesti, S. J., Jr. 229
Ono, K. 271
Oparil, S. 156
Orange, R. P. 152
Orkand, P. M. 163
Orlic, D. 107
Orme, R. J. 209
Oronsky, A. L. 152
Orr, J. C. 118
Osborne, J. 208
Osborne, M. P. 257
Osborne, R. K. 147
Osler, L. D. 167
Osterberg, D. H. 167
O'Sullivan, R. B. 267

PAGE

O'Toole, W. F. 197
Ottenstein, D. 240
Ottinger, L. W. 264
Otto, W. J., Jr. 254
Ouellette, E. M. 169
Owen, O. E. 152
Oxman, M. N. 141
Pachas, W. N. 152
Paci, P. F. 197
Paff, G. H. 106
Page, L. K. 267
Pageau, R. 152
Paine, A. 240
Paine, D. 147
Pajari, K. L. 242
Palay, S. L. 106
Palmer, R. H. 212
Palotta, J. A. 144
Pan, S. C. 278
Panagakos, P. 186
Panagiotis, N. M. 169
Paolino, T. J. 246
Papermaster, D. S. 198
Pappas, A. M. 185
Pappenheimer, J. R. 219
Paredes, S. 253
Parikh, B. M. 273
Parisi, A. F. 123
Parisi, L. F. 211
Park, Y. H. 271
Parker, D. A. 271
Parker, J. B., Jr. 231
Parkes, C. M. 233
Parkhurst, E. C. 264
Parmley, W. W. 144
Parrish, J. R., Jr. 124
Parry, W. L. 267
Parsons, E. F. 152
Parsons, J. A. 139
Parsons, L. 10, 11, 326
Pasternac, A. 152
Patch, V. D. 237
Pathak, A. 211
Pathak, M. A. 127
Patterson, W. B. 258
Patton, A. S. 267
Paulus, H. P. 117

PAGE

Pavy, P. D., III 242
Payne, E. C. 229
Pearce, J. K. 237
Pearlman, A. L. 164
Pearlman, J. L. 208
Pechet, M. M. 137
Peebles, R. R. 237
Peebles, T. C. 205
Peeters, C. J. 123
Pegg, C. A. 271
Pendergrass, H. P. 252
Pepper, J. J. 152
Perchemilides, P. 119
Perchik, L. 253
Perlman, M. S. 242
Perlmutter, A. D. 260
Perlo, V. P. 166
Perlstein, G. 169
Pernokas, L. N. 260
Perry, J. A. 237
Pershonok, D. 233
Persky, A. D. 240
Peter, G. 212
Peters, J. A. 197
Peters, C. M. 144
Peterson, O. L. 222
Petrie, A. 261
Pfeffer, W., Jr. 208
Pfeiffer, H. F. 152
Pfister, R. C. 254
Phillips, A. W. 267
Phillips, D. M. 107
Phillips, J. H. 176
Piacsek, B. E. 107
Piazza, E. U. 240
Picard, E. H. 166
Pier, A. S., Jr. 144
Pierce, C. M. 231
Pikula, J. V. 258
Pinn, V. W. 199
Pierce, D. S. 185
Pierson, J. D. 242
Piggot, P. J. 113
Pike, G. M. 137
Pinals, R. S. 145
Pincus, J. H. 152
Pinderhughes, C. A. 231

PAGE
Pines, J. 145
Pinkus, G. S. 199
Pinnell, S. R. 127
Piper, E. L. 128
Piro, A. J. 145
Pitt, J. 211
Plauth, W. H., Jr. 205
Plimpton, F. T. P. 7
Plimpton, G. H. 9
Pluchino, S. B. 216
Plzak, L. F., Jr. 264
Poffenbarger, P. L. 152
Point, W. W. 137
Polansky, B. J. 147
Pollack, J. 10, 12
Pollard, J. J. 253
Pollen, A. 181
Pollen, D. A. 261
Pomerantz, J. M. 246
Pontoppidan, H. 258
Pope, A. 165
Popoli, A. F. 222
Porter, A. J. 253
Porter, P. J. 204
Poskanzer, D. C. 166
Postel, S. 147
Potsaid, M. S. 252
Potter, B. E. 176
Potter, H. J. 208
Potter, L. T. 215
Potter, D. D. 163
Potter, M. G. 237
Potter, T. A. 185
Potts, J. T., Jr. 134
Pounds, L. A. 212
Powell, M. J. 267
Powell, W. J., Jr. 156
Pozefsky, T. 152
Prager, A. S. 240
Preston, E. T. 188
Prescott, K. J. 152
Prescott, R. 147
Price, D. L. 169
Price, R. W. 156
Priestley, G. C. 271
Prior, V. J. 267
Pritchard, J. 221

PAGE
Proner, B. D. 246
Prout, C. 137
Pueschel, A. M. 208
Pugatch, D. 240
Purtilo, D. T. 199
Pusey, N. M. 6, 10, 12, 91
Putnam, G. 8
Putnam, H. M. 209
Putschar, W. G. 196
Puttee, M. E. 211
Quevedo, W., Jr. 127
Quigley, T. B. 257
Quinby, W. C., Jr. 264
Quinn, R. S. 124
Quint, J. 271
Rabinov, K. R. 252
Rabkin, M. T. 137
Rachaman, E. S. 123
Rachlin, W. S. 264
Radin, E. L. 186
Raisman, G. 107
Raker, J. W. 259
Rako, J. 209
Rako, S. M. 246
Ramirez, A. 152
Ramirez-Lassepas, M. 169
Randerath, E. E. 119
Randerath, K. 134
Ransil, B. J. 137
Raphling, D. L. 243
Rapin, A. M. C. 119
Rapoport, A. H. 141
Rashid, A. 152
Rasiel, A. 262
Ravenscroft, K., Jr. 246
Rawlins, F. A. 220
Ray, B. A. 167
Raynes, A. E. 246
Razaui, L. M. B. 141
Record, E. E. 186
Rectanus, D. R. 208
Reddy, A. R. 152
Reed, J. W. 184
Rees, M. K. 156
Rees, S. B. 145
Refetoff, S. 145
Regan, C. D. J. 181

PAGE

Reich, P. 229
Reichard, J. F. 237
Reid, D. E. 173
Reid, R. C. 237
Reider, A. E. 246
Reidy, J. A. 186
Reif-Lehrer, L. 181, 184
Reich, P. R. 137
Reiling, W. A., Jr. 271
Reilly, P. P. 243
Reinecke, R. D. 180, 184
Reiner, M. L., Jr. 208
Reinhardt, S. A. 237
Reinhold, V. N. 119
Reiskin, I. 246
Reitz, R. E. 152
Rekosh, J. H. 233
Remensnyder, J. P. 260
Remler, M. P. 169
Remold, H. G. 152
Rendall, E. S. 145
Resnick, R. H. 145
Restall, D. S. 264
Restieaux, N. J. 211
Revel, J. 106
Rever, G. W. 237
Rev-Kury, L. H. 198
Rexford, E. N. 231
Reyersbach, G. C. 208
Reyes, J. T. 243
Reyes, P. 196
Reynolds, E. S. 195
Reynolds, J. R. 8, 198
Reznikoff, C. A. 198
Reznikoff, W. S. 113
Rheingold, J. C. 231
Ribas-Mundo, M. 152
Riccardi, V. M. 211
Rice, J. O. 240
Richards, R. 152
Richards, W. A. 145
Richardson, C. C. 116
Richardson, E. L. 8
Richardson, E. P., Jr. 166
Richardson, G. S. 260
Richerson, H. B. 139
Richie, R. H., Jr. 208

PAGE

Richmon, J. S. 169
Richter, H. A. 170
Riddle, D. I. 243
Rieder, S. V. 117
Riemer, K. 181
Riordan, J. F. 117
Riseborough, E. J. 186
Riseman, J. E. F. 134
Robb, G. L. 209
Robb, R. M. 181
Robbie, D. 221
Robbins, L. L. 251
Robbins, L. S. 264
Robbins, M. D. 237
Robbins, P. G. 175
Robbins, S. L. 196
Robboy, S. J. 199
Roberts, A. B. 216
Roberts, A. S. 243
Roberts, DeW. 196
Robertson, J. A. 243
Robertson, L. S. 206
Robey, J. S. 208
Robin, N. I. 152
Robinson, C. R. 197
Robinson, D. R. 137
Robinson, H. E. 246
Robinson, J. C. 208
Robinson, P. M. 237
Robinson, S. H. 134
Robison, J. S. 246
Robison, R. L. 198
Rochlin, G. 227
Rock, J. C. 326
Rockenmacher, S. 211
Rockett, F. X. 267
Rocklin, R. E. 152
Roddey, O. F., Jr. 208
Rodkey, G. V. 264
Rodriguez, E. 187
Rodriguez-Alverez, J. 271
Rodriguez-Erdmann, F. 152
Rofman, E. S. 243
Rogers, L. B. 118
Rogers, W. P., Jr. 267
Rogers-Greenblatt, G. 237
Rogoff, J. H. 246

PAGE
Rojas-Corona, R. R. 271
Rolde, A. K. 240
Rolde, E. J. 240
Rollins, N. 240
Romanul, F. C. A. 166
Romualdez, A. G., Jr. 220
Ron, E. Z. 113
Roopenian, A. 190
Ropes, M. W. 132
Roscoe, J. P. 113
Rose, H. E. 208
Rosen, B. J. 145
Rosen, F. S. 204
Rosen, S. 195
Rosenberg, I. H. 137
Rosenberg, S. A. 271
Rosenberg, S. J. 156
Rosenblith, W. A. 190
Rosenfeld, S. I. 152
Rosenheim, E. 240
Rosenkaimer, S. 264
Rosenoer, V. M. 204
Rosenthal, A. 206
Rosenthal, A. D. 273
Rosenthal, P. 182
Rosman, N. P. 166
Rosoff, C. B. 259
Rosowsky, A. 119
Ross, R. A. 204
Rosset, R. 113
Rossi, A. M. 229
Rosso, R. G. 243
Roth, D. A. 264
Roth, S. 246
Roth, S. I. 195
Roth, M. M. 112
Rothschild, H. 152
Rothschild, G. H. 243
Rouschias, G. 123
Rowbotham, J. L. 264
Rowland, C. V., Jr. 233
Rowe, C. R. 186
Rowe, J. H., Jr. 7
Rubenstein, H. S. 145
Rubin, H. W. 174
Rubin, J. W. 271
Rubin, V. G. 271

PAGE
Rubino, A. 211
Ruboy, J. S. 208
Rudders, R. A. 152
Ruddy, S. J. 145
Rude, S. 107
Ruder, E. A. M. 156
Ruderman, N. B. 141
Rudy, H. A. 267
Rugstad, H. E. 216
Runge, L. A. 153
Rupp, W. D. 119
Ruscio, J. F. 264
Russell, D. H. 237
Russell, J. A. 240
Russell, J. D. 153
Russell, P. L. 243
Russell, P. S. 256
Russell, S. B. 211
Russfield, A. B. 196
Rutenburg, A. M. 259
Rutstein, D. D. 222
Ruzumna, L. 246
Ryan, G. M., Jr. 175
Ryan, T. J. 145
Rydell, N. W. 187
Ryser, C. P. 233
Ryser, H. J. P. 215
Sabath, L. D. 134
Sabbath, J. C. 237
Sabesin, S. M. 137
Sachdev, Y. V. 273
Sachs, B. J. 181
Sacks, J. H. 240
Sacks, S. 176
Sadowsky, N. L. 253
Saffer, S. D. 170
Safon, L. E. 175
Sagall, E. L. 145
Scannell, J. G. 257
St. Goar, W. T. 137
Saito, H. 191
Salam, M. Z. 166
Salber, E. J. 204
Salerni, B. 272
Salhanick, H. A. 173
Salib, P. I. 187
Salwen, L. H. 233

PAGE

Salzman, E. W. 259
Samaraweera, S. 233
Sament, S. 170
Sanadi, D. R. 120
Sanchez, G. C. 137
Sanders, C. A. 137
Sanders, J. H. 145
Sandler, A. I. 145
Sandler, R. 156
Sandor, A. I. M. 243
Sanford, B. H. 196
Sanno, Y. 113
Santamarina, B. A. 173
Santis, M. R. 153
Santos, J. C. 156
Sanyal, M. K. 123
Saravis, C. A. 141
Sargent, A. U. 141
Sarkar, N. 120
Sarner, M. 153
Sarris, S. P. 267
Sarvas, M. O. 123
Sasahara, A. A. 137
Sasaki, H. 243
Sashin, J. I. 246
Saunders, G. A. 145
Saxema, B. N. 153
Sazon, L. 145
Scarborough, G. A. 123
Scatturin, A. 123
Sceery, R. T. 208
Schall, L. A. 326
Schapiro, R. H. 137
Scharff, D. E. 246
Scharli, A. F. 272
Schatzki, R. 326
Schatzki, S. C. 253
Schauble, J. F. 264
Scheffler, I. E. 123
Scheimberg, B. S. 246
Schein, P. P. 156
Schepens, C. L. 180
Schepis, N. P. 264
Scherl, D. J. 237
Scherz, B. 243
Scheuplein, R. J. 127
Schildkraut, J. J. 228

PAGE

Schiller, A. L. 198
Schlossman, S. F. 134
Schmidek, H. H. 170
Schmid-Schonbien, H. 153
Schmidt-Nowara, W. W. 156
Schniewind, H. E. 246
Schlesinger, H. R. 240
Schneeberger-Keeley, E. E. .. 195
Schneider, P. B. 137
Schneller, P. 240
Schnitzer, R. D. 233
Schoene, W. C. 170
Schoenfeld, R. I. 216
Schofield, P. 141
Scholl, M. L. L. 166
Schonmetzler, H. K. 264
Schoolwerth, A. C. 156
Schorr, I. 211
Schott, J. W. 246
Schraer, R. S. J. 120
Schramm, A. J. 176
Schreibman, P. H. 153
Schrock, T. R. 153
Schroeder, S. A. 156
Schuknecht, H. F. 190
Schulberg, H. C. 229
Schulz, M. D. 251
Schur, P. H. 138
Schuster, S. R. 259
Schwab, R. S. 165
Schwartz, C. A. 243
Schwartz, H. J. 153
Schwartz, J. H. 156
Schwartz, L. A. 237
Scott, A. W. 180
Scott, D. H. 181
Scott, J. F. 132
Scott, R. A. T. 170
Scully, R. E. 193
Seale, E. S. 181
Seals, J. R. 170
Seaman, W. B. 252
Seamans, R. C., Jr. 8
Sear, H. S. 253
Sears, B. R. 264
Sears, E. M. 208
Seddon, J. A., Jr. 243

PAGE

Sedgwick, C. E. 261
Seeler, A. O. 139
Segal, H. B. 147
Segal, M. S. 139
Segel, A. L. 264
Seidel, J. C. 167
Seidi, L. G. 145
Seidman, J. M. 147
Seifen, E. E. 215
Seigne, T. D. 264
Seil, D. E. 237
Selenkow, H. A. 134
Sellers, E. M. 216
Selling, B. 147
Selverstone, B. 167
Selverstone, N. J. 138
Selzer, J. G. 237
Semon, R. G. 237
Semrad, E. V. 226
Sengupta, S. K. 196
Sens, R. 243
Sewall, W. F. 175
Sexton, L. I. 175
Seyer, J. M. 186
Sha'afi, R. I. 220
Shader, R. I. 228
Shah, H. K. V. 211
Shahon, D. B. 264
Shambaugh, A. 237
Shambaugh, B. 237
Shambaugh, P. W. 240
Shannon, D. C. 208
Shapiro, D. 228
Shapiro, J. A. 113
Shapiro, J. H. 252
Shapiro, K. J. 243
Shapiro, L. N. 231
Shapiro, R. 267
Shapiro, R. W. 243
Sharp, G. W. G. 215
Sharpe, W., Jr. 240
Sharpley, R. H. 246
Shattuck, G. C. 326
Shaw, D. 246
Shaw, H. A. 11
Shaw, H. M. 208
Shaw, R. S. 259

PAGE

Shea, S. M. 195
Shea, T. E. 254
Shean, F. C. 156
Sheffer, A. L. 145
Sheftel, T. C. 240
Sheh, J. 272
Shehader, I. H. 153
Shein, H. M. 228
Sheiner, H. J. 272
Sheldon, A. P. 233
Shelton, W. R. 240
Sheridan, J. D. 163
Sherman, G. M. 120
Sherry, S. N. 208
Sherwood, L. M. 138
Sherwood, M. R. 246
Sherwood, P. J. 220
Shetty, K. T. 170
Shields, L. T. 188
Shih, V. E. 168
Shillito, J., Jr. 259
Shine, K. I. 145
Shirahige, I. 170
Shirley, R. L. 176
Shnidman, S. R. 243
Shohet, S. B. 206
Shore, S. 190
Shoul, M. I. 267
Shriber, W. J. 138
Shulman, R. S. 156
Shum, W. L. 120
Shuttleworth, C. A. 188
Shwachman, H. 203
Sidd, J. J. 145
Sidel, J. S. 156
Sidel, V. W. 138
Sidley, N. T. 240
Sidman, M. 166
Sidman, R. L. 165
Siegel, A. J. 156
Siegel, G. L. 208
Siegler, R. 197
Sifneos, P. E. 227
Silberger, J., Jr. 237
Silen, W. 13, 256
Siller, E. J. 170
Silva, H. B. 141

PAGE

Silverman, I. 208
Silverman, S. 228
Silverstein, H. 191
Silverstone, L. 209
Simard, D. 170
Simmons, R. J. 181
Simon, F. S. 246
Simon, H. B. 156
Simon, M. 251
Simon, W. 219
Simon, W. H. 188
Simonian, S. J. 265
Simons, E. R. 117
Simons, K. A. 182
Simons, L. A. 267
Simpson, R. T. 124
Sinay, P. G. 123
Siner, E. M. 237
Sinesi, S. J. 128
Singer, D. L. 147
Singer, I. 145
Singer, J. 221
Singer, J. G. 237
Singer, M. A. 153
Singleton, E. F. 191
Singleton, J. M. 272
Sinha, D. P. 113
Sisson, J. H. 147
Sites, V. R. 156
Sizer, T. R. 91
Skamene, E. 272
Skarin, A. T. 145
Skillman, J. J. 260
Skinner, M. D. 128
Slapak, M. 265
Slater, C. R. 163
Slayter, H. S. 196
Sledge, C. B. 185
Sloane, A. E. 180
Smith, C. A. 326
Smith, C. B. 153
Smith, D. E. 108
Smith, D. H. 204
Smith, G. 9
Smith, G. M. 259
Smith, G. V. S. 326
Smith, I. S. 265

PAGE

Smith, J. H. 198
Smith, M. S. 153
Smith, P. 176
Smith, R. G. 156
Smith, R. H. 237
Smith, Richard M. 326
Smith, Robert M. 257
Smith, S. A. 175
Smith, S. B. 176
Smith, S. R. 237
Smith, S. S. 156
Smith, T. R. 180
Smith, T. W. 156
Smitherman, T. C. 156
Smith-Perersen, M. 186
Snedeker, L. 208
Snider, M. 233
Snodgrass, P. J. 138
Snodgrass, S. R. 170
Snow, J. C. 190
Snyder, B. R. 237
Snyder, F. F. 326
Snyder, J. C. 91
Snyder, J. G. 138
Socolow, E. L. 138
Soeldner, J. S. 138
Sohier, W. D., Jr. 138
Soila, P. 251
Solomon, A. K. 116, 219
Solomon, H. C. 326
Solomon, Paul 208
Solomon, Philip 226
Soloway, A. H. 262
Someda, K. 272
Sommer, A. 156
Sonksen, P. H. 153
Sonnenblick, E. H. 134
Sorokin, S. P. 106
Sosman, J. L. 253
Soter, N. A. 129
Soto, E. A. 199
Souders, T. B. 183
Spark, R. F. 145
Sparling, P. F. 153
Spanier, B. B. 124
Spangler, A. S. 128
Spector, G. J. 191

PAGE

Speizer, F. E. 138
Spence, A. M. 170
Spencer, R. G. 156
Sperber, M. A. 243
Spielman, A. 278
Spievack, A. R. 265
Spillane, J. J. B. 237
Spinelli, F. R. 220
Spinola, M. 123
Spiro, M. J. 141
Spiro, R. G. 117
Spitzer, N. C. 164
Squire, L. F. 252
Sreter, F. A. 167
Sridhara, S. 112
Stachiewicz, D. M. 240
Stahler, S. 176
Stalvey, H. D. 237
Stam, A. C., Jr. 145
Stanbury, J. B. 139
Stanton, A. H. 227
Starkey, G. W. B. 259
Starobin, O. E. 147
Starr, A. 260
Starr, A. M. 265
Statland, H. 139
Stavros, J. J. 191
Stead, E. A., Jr. 139
Stearns, M. 9
Stearns, N. S. 138
Stearns, S. 138
Stechschulte, D. J. 153
Steck, T. L. 124
Steigbigel, N. H. 138
Stein, A. H. 246
Stein, H. J. 145
Steinberg, J. D. 153
Steinke, J. 138
Steinman, T. I. 156
Steinmetz, P. R. 134
Stellar, L. I. 145
Stephens, K. F. 183
Stephenson, M. L. 138
Sterling, P. 108, 220
Stern, M. J. 246
Stewart, M. M. 156
Stewart, R. C. 147

PAGE

Stickler, D. W. 265
Stiglitz, M. L. 246
Stillman, A. E. 147
Stillman, J. S. 134
Stinson, J. L. 220
Stiver, I. P. 233
Stock, M. 238
Stocker, F. P. 211
Stoddard, L. T. 167
Stoeckle, J. D. 134
Stoffyn, A. M. 120
Stoffyn, P. J. 117
Stone, A. A. 228
Stone, B. H. 175
Stone, L. A. 238
Stone, S. 240
Stone, W. E. 238
Stossel, T. P. 156
Stovring, J. 253
Strand, L. J. 170
Strand, R. D. 253
Stratton, K. 141
Strauss, H. S. 208
Strauss, M. B. 139
Street, R. B., Jr. 197
Strickler, W. L. 268
Strieder, D. J. 145
Strigini, P. F. G. 112
Strole, W. E. 145
Strum, J. M. 198
Stuart, R. M. 243
Stults, H. B., Jr. 208
Sturnick, M. I. 138
Sturgis, G. P. 138
Sturgis, S. H. 173
Sturrock, J. B. 238
Subramanian, A. R. 113, 114
Suby, H. I. 265
Sudduth, S. S. 177
Suescum, A. T. 246
Suit, H. D. 251
Sullivan, G. L. 181
Sullivan, L. W. 145
Sullivan, J. M. 141
Sullivan, P. 243
Sum, P. T. 262
Summers, W. P. 153

PAGE

Sustento, J. O. 246
Suyemoto, J. 197
Suzuki, H. 153
Swann, D. A. 120
Swartz, M. N. 132
Sweet, R. H. 222
Sweet, W. H. 257
Szabo, G. 106, 127
Szucs, M. M. 153
Szymanski, L. S. 240
Taber, G. H. 9
Taber-Pierce, E. 106
Taft, E. B. 193
Taft, P. D. 195
Tagiuri, C. K. 240
Takada, I. 272
Takahashi, T. 191
Talamo, R. C. 153
Talbot, H. S. 259
Talbot, N. B. 203
Talkov, R. H. 145
Talwalkar, Y. B. 211
Tamakuma, S. 272
Tang, C-W. 198
Targovnik, J. H. 141
Tarjan, E. M. 141
Tartakoff, H. H. 238
Tarlin, L. D. 211
Taub, J. S. 208
Taube, I. 238
Taube, R. A. 220
Taunton, O. D. 156
Tawil, H. 170
Taylor, J. O. 156
Taylor, W. D. 8
Taylor, W. J. 261
Taymor, M. L. 173
Tefft, M. 252
Temby, W. D. 240
Tennant, B. C. 141
Tenney, B. 326
Terres, G. 112
Tezuka, T. 128
Thier, S. O. 138
Thoma, K. H. 327
Thomas, C. A., Jr. 116
Thomas, W. H. 187

PAGE

Thompson, R. C. 124
Thompson, S. J. 187
Thorn, G. W. 90, 130
Thorner, J. W. 124
Thurm, R. H. 147
Tilles, J. G. 138
Tilley, R. F. 128
Timberlake, W. H. 166
Tishler, P. V. 153
Tishler, S. L. 153
Toala, P. 153
Tobin, J. D. 153
Toch, R. 208
Toda, K. 128
Todd, D. P. 259
Toews, C. J. 153
Toll, K. v. S. 168
Tolman, (E.) L. 128
Tolman, M. M. 327
Tomchik, F. S. 253
Tomoda, M. 120
Toole, B. P. 153
Tooney, N. M. 220
Torchia, D. A. 124
Torgerson, W. R. 187
Torop, P. 246
Torres, L. D. 272
Touchette, P. E. 168
Towle, P. A. 168
Trachtenberg, H. A. 265
Trachtenberg, M. C. 272
Traggis, D. G. 205
Traub, W. 118
Travis, D. F. 185
Travis, K. W. 268
Treder, E. C. E. 216, 268
Trendelenburg, U. G. 215
Trevett, L. D. 230
Trey, C. 145
Trivus, R. H. 240
Trott, A. W. 185
Trotta, N. C. 183
Trouern-Trend, J. B. G. 212
Trum, B. F. 11, 195
Truman, J. T. 208
Tsan, M-F. 219
Tsao, Y. C. 211

PAGE

Tucker, A. W. 175
Tucker, D. A. 145
Tullis, J. L. 134
Turner, R. H. 186
Turtle, W. J. 209
Tuthill, J. W. G. 209
Twaddle, A. C. 222
Twaddle, J. A. 254
Tyberg, J. 153
Tyler, H. R. 165
Tyrrell, M. J. 211
Ulfelder, H. 173
Ulin, R. 186
Ullian, R. B. 146
Ulmer, D. D. 134
Umansky, I. 209
Underwood, R. H. 141
Urschel, C. W. 146
Uzman, B. G. 194
Vaillant, H. W. 177
Valenca, L. M. 153
Valenstein, A. F. 230
Valenstein, E. 170
Valentine, M. D. 146
Vallee, B. L. 116
Vandam, L. D. 13, 257
Vanderpol, M. 238
Van der Water, J. M. 272
Van Dyke, D. H. 170
Van Dyke, W. M. 209
Vanessen, D. C. 164
vanPelt, W. 209
Van Praagh, R. 195
Van Praagh, S. Z. 209
Varma, K. 154
Varma, S. K. 154
Vashi, N. N. 211
Vasquez-Amory, E. 243
Vassaux, C. E. 156
Vawter, G. F. 194
Veer, J. V. D. S. 139
Venkatachalam, M. A. 198
Venrooy, W. J. V. 154
Verhoeff, F. H. 327
Veyrieres, A. M. M. 124
Vickery, A. L., Jr. 194
Vieira, F. L. 220

PAGE

Villee, C. A. 116
Villee, D. B. 205
Vitug, A. J. 170
Voegeli, E. 253
Volpe, J. J. 170
von Lichtenberg, F. 193
Vorenberg, J. 230
Wacker, W. E. C. 132
Wahren, J. 141
Waldvogel, F. A. 154
Walker, G. G. 9
Walker, P. H. 268
Wallace, J. 209
Wallace, J. S. 176
Wallace, W. A. 154
Wallach, D. F. H. 117
Wallach, H. D. 240
Walter, C. W. 257
Walter, M. M., Jr. 238
Walters, M. N. I. 199
Walton, D. S. 182
Walzer, S. 230
Walzer, S. G. 268
Wang, C-a. 268
Wang, C-C. 252
Wanger, S. L. 168
Warren, K. W. 261
Warren, R. 257
Warren, S. 327
Warshaw, J. B. 205
Warthin, T. A. 130
Wartofsky, L. 154
Washburn, C. H. 243
Washburn, S. L. 238
Waterfield, M. D. 156
Waterman, R. E. 108
Watson, B. K. 112
Watson, P. L. 238
Watson, R. H. 209
Watters, G. V. 166
Watts, H. G. 188
Waud, B. E. 265
Waud, D. R. 13, 215
Waugh, N. C. 233
Waxler, N. E. 230
Wearn, J. T. 9
Weber, A. L. 252

PAGE

Webster, E. W. 251
Wedeen, R. P. 139
Wedgwood, R. J. P. 203
Weglicki, W. B. 154
Weidman, T. A. 182, 184
Weil, J. L. 240
Weinberg, A. N. 138
Weinberger, J. L. 230
Weiner, A. E. 175
Weiner, L. B. 154
Weiner, M. A. 254
Weiner, M. S. 246
Weiner, R. M. 238
Weinfeld, M. S. 187
Weingarten, C. H. 146
Weinstein, L. 205
Weinstein, R. S. 199
Weinstock, R. 246
Weintraub, D. 176
Weintraub, R. M. 273
Weis, D. R. 182
Weiser, M. M. 146
Weinshilboum, R. M. 157
Weisman, A. D. 227
Weisman, H. J. 243
Weiss, A. D. 190
Weiss, I. W. 157
Weiss, J. B. 265
Weiss, J. L. 230
Weiss, Robert S. 228
Weiss, Ruth S. 240
Weiss, T. F. 222
Welch, C. E. 257
Welch, K. J. 261
Weller, T. H. 278
Wells, J. C., Jr. 146
Wells, L. D. 238
Wells, R. 134
Wepsic, J. G. 272
Wermer, H. 230
Wermer, O. S. 238
Wertelecki, W. 209
West, F. J. 181
Westmoreland, N. P. 108
Wexler, D. 230
Wexler, M. J. 272
Wheatley, R. E. 177

PAGE

Wheeler, E. O. 138
Wheeler, H. B. 259
Wheeler, H. J. 209
Wheelock, F. C., Jr. 265
Whelan, M. A. 222
Whiskin, F. E. 240
White, J. C. 327
White, M. F. 265
White, M. K. 209
White, T. H. 8
Whitcomb, J. F. 146
Whitfield, T. J. 209
Whitman, V. 211
Whitney, J. B. 181
Wickelgren, B. G. 164
Wiggins, L. G. 91
Wiitanen, J. T. 163
Wilkins, E. W., Jr. 261
Wilson, R. E. 259
Winer, B. M. 134
Winkler, G. F. 166
Winn, H. J. 259
Winship, L. L. 9
Winter, W. D., Jr. 205
Winterbottom, M. R. 238
Wishnie, H. A. 247
Wishnow, R. M. 154
Wittenborg, M. H. 251
Wiedman, M. 182
Wiedmann, T. T. 196
Wiese, W. H. 157
Wiesel, T. N. 163
Wiesner, J. B. 9
Wilensky, S. 141
Wilfert, C. M. 209
Wilfert, J. N. 154
Wilker, S. R. 191
Wilkey, B. R. 268
Wilkinson, H. A. 268
Wilkinson, R. H. 253
Willems, M. P. 272
Willens, J. S. 273
Willer, L. H. 238
Williams, C. 138
Williams, G. B. 272
Williams, G. H. 154
Williams, G. M. 199

PAGE

Williams, H. W. 238
Williams, I. M. 182
Williams, R. A. 199
Wilsnack, S. C. 243
Wilson, D. E. 154
Wilson, R. V. 238
Wilson, T. H. 119
Wilson, W. R. 191
Woeber, K. A. 138
Wohl, M. E. B. 209
Wohl, M. J. 146
Wohlauer, P. F. 247
Wolf, E. G. G. 181
Wolf, K. P. 212
Wolf, M. A. 147
Wolf, M. K. 106
Wolf, P. A. 223
Wolfberg, J. R. 247
Wolff, A. K. 240
Wolff, L. 327
Wolff, P. H. 228
Wolff, R. 138
Wolfson, S. 147
Wolk, R. B. 254
Wolman, H. M. 240
Wolpow, E. R. 170
Wong, P. T. 220
Wonham, V. A. 272
Woo, S. W. 268
Wood, D. J. 247
Wood, L. C. 154
Woodruff, L. M. 265
Woods, B. T. 170
Woods, F. M. 261
Woods, J. E. 272
Worthen, D. M. 182, 184
Worthington, M. G. 146
Wray, S. H. 182, 184
Wright, B. 112
Wright, R. L. 265
Wuerker, R. B. 106
Wulsin, H. E. 238
Wurster, J. B. 182, 184
Wuttke, W. R. 216
Wyman, S. M. 252
Wyman, E. T., Jr. 186
Wysocki, A. 233

PAGE

Yahia, C. 176
Yakovlev, P. I. 327
Yamaguchi, T. 247
Yatsuhashi, M. 265
Yellen, M. 243
Yerganian, G. 196
Yessayan, L. 170
Yett, H. S. 188
Yogo, T. 170
Yokoyama, M. 268
Yonezawa, T. 244
Yorzyk, W. A. 265
Yoshinaga, K. 107
Yosipovitch, Z. H. 188
Yost, P. W. 244
Young, D. M. 135
Young, H. H., II 265
Young, R. R. 166
Younge, P. A. 173
Yuasa, R. 113
Yuasa, S. 272
Yudowitz, B. S. 247
Yum, M. N. 199
Yurchak, P. M. 139
Yussman, M. A. 177
Zacharias, L. 174
Zakheim, R. M. 211
Zamcheck, N. 135
Zamecnik, P. C. 131
Zarsky, E. L. 238
Zaudy, E. C. 209
Zaver, A. G. 209
Zeitlin, G. L. 265
Zervanos, N. J. 211
Zervas, N. T. 259
Zetzel, E. R. 227
Zetzel, L. 131
Zezulin, W. 253
Ziegler, M. M. 124
Zieper, I. 167
Zigelbaum, S. D. 238
Zilbach, J. J. 240
Zimbler, S. 187
Zimmerman, C. E., II 265
Zimmermann, R. A. 114
Zimon, R. P. 147
Zinberg, N. E. 228

PAGE

Zinner, S. H. 141
Zinninger, G. F. 254
Ziskind, A. 209
Zolik, E. S. 231
Zoll, P. M. 131
Zollinger, R. M., Jr. 265
Zonderman, B. 191
Zook, B. C. 198
Zovickian, A. 191
Zuckerman, J. E. 177
Zuckerman, W. 268

INDEX

Abbreviations 101
Absence, Leave of 45
Academic Calendar 4
Administrative Board 12
Administrative Officers 10
Admission, Foreign Students . 37
Admission, Requirements for . 30
Admission Procedure, Special Students 38
Admission to Advanced Standing in the Medical School .. 36
Anatomy, Department of 106
Announcement of Courses ... 106
Assembly, Undergraduate 94
Bacteriology and Immunology, Department of 111
Beneficiary and Loan Funds in other Departments of the University 84
Beth Israel Hospital 20
Biological Chemistry, Department of 116
Board of Overseers 7
Boston City Hospital 20
Boston Hospital for Women .. 21
Buildings, Description of 16
Calendar, Academic 4
Cancer Commission of Harvard University 91
Children's Hospital Medical Center 22
Colleges Represented by Students in the Dental School 324
Colleges Represented by Students in the Medical School 316
Continuing Education, Department of 39
Corporation, The 6
Countway, Francis A., Library of Medicine 18
Courses, Announcement of ... 106
Courses for Graduates, *See* Continuing Education, Department of
Curriculum, General Description of 94
Degree, Requirements for Doctor of Dental Medicine 47
Degree, Requirements for Doctor of Medical Sciences 48
Degree, Requirements for Doctor of Medicine 46
Degrees in the Medical Sciences, Requirements for ... 40, 48
Degrees of Doctor of Dental Medicine Conferred in June 1968 320
Degrees of Doctor of Medicine Conferred June 1968 .. 281
Dental Medicine, School of ... 17
Dental Medicine, Elective Course 126
Departments, Listing of, *beginning page* 106
Dermatology, Department of 127
Dining Hall 52
Division of Hours 104
Division of Medical Sciences 40
Dormitory 51
Elective Courses, Listing of. *See* Individual Department
Emeriti Professors 325
Employment, Student 53
Enrollment Summary, Dental School 323
Enrollment Summary, Medical School 315
Examination, General, for Degree Candidates 43
Examinations and Promotion . 42
Expenses and Fees 49
Faculty, Listing by Department, *beginning page* 106
Fees and Expenses 49
Fellowships 86

Fellowships and Scholarships in other Departments of the University 61
First Year Schedule 102
See also General Plan of Instruction
Foreign Students, Admission Procedure 37
Fourth Year Schedule 103
See also General Plan of Instruction
General Plan of Instruction .. 94
First Two Years 95
Third and Fourth Years 98
General Regulations 42
Gynecology. *See* Obstetrics and Gynecology, Department of
Harvard Medical Center 29
Health Service, Student 52
History and Organization of the Medical School 14
Hospitals 20
Hours, Division of, Medical School 104
Howe Laboratory of Ophthalmology 184
Instruction, General Plan of .. 94
Interdepartmental and Special Courses 277
Internship Appointments, Class of 1968 286
Leave of Absence 45
Leave of Absence, Medical Students on 318
Lectureships 93
Legal Medicine 277
See Interdepartmental and Special Courses
Libraries 18
Loan Funds 82
Loan and Beneficiary Funds in other Departments of the University 84
McLean Hospital 24
Massachusetts Eye and Ear Infirmary 25
Massachusetts General Hospital 26
Massachusetts Mental Health Center 27
Medical College Admission Test 34
Medical Schools Represented by Students who Entered Dental School with Advanced Standing 324
Medical Schools Represented by Students who Entered Medical School with Advanced Standing 317
Medical Sciences, Division of 40
Medicine, Department of 130
Microscopes 50
Museum, Warren Anatomical 19
National Scholarships, Medical School 53
Neurobiology, Department of 163
Neurology, Department of ... 165
Neuropathology, 172. *See also* Neurology
New England Deaconess Hospital 27
Non-Resident Student Status . 45
Non-Resident Students 318
Obstetrics and Gynecology, Department of 173
Officers, Administrative 10
Officers of Administration and Instruction, Index of 328
Ophthalmology, Department of 180
Ophthalmology, Howe Laboratory of 184
Orthopedic Surgery, Department of 185
Otology and Laryngology, Department of 190
Overseers, Board of 7
Overseers' Committee to Visit the Medical and Dental Schools 9
Pathology, Department of 193
Pediatrics, Department of 203
Peter Bent Brigham Hospital 28
Pharmacology, Department of 215
Physiology, Department of .. 219

Plan of Instruction, General .. 94
President and Fellows of Harvard College 6
Preventive Medicine, Department of 222
Prizes, Medical School 91
Professors Emeriti 325
Promotion and Examinations . 42
Promotion, Rules Governing .. 44
Promotion Boards 43
Psychiatry, Department of 226
Public Health, School of 42
Public Health, School of, Elective Courses 280
Radiology, Department of 251
Regulations, General 42
Research Funds 90
Research, Student 100
Rules Governing Promotion .. 44
Schedule: First Year 102
Second Year 102
Third Year 103
Fourth Year 103
See also General Plan of Instruction
Scholarships 53
Scholarships and Fellowships in other Departments of the University 61
School of Dental Medicine 17, 319
School of Public Health 42
School of Public Health Elective Courses 280
Second Year Schedule 102
See also General Plan of Instruction
Servicemen, Admission procedure 36
Special Students, Admission Procedure 38
Student Employment 53
Student Health Service 52
Students Enrolled in Dental School 321
Students Enrolled in Medical School 294
Students on Leave of Absence from Medical School 318
Surgery, Department of 256
Third Year Schedule 103
See also General Plan of Instruction
Tropical Public Health 278
Tuition 49
Tutorial Program and Student Research 100
Undergraduate Assembly 94
Vanderbilt Hall 51
Veterans Administration Hospital (West Roxbury) 29
Visiting Committee 9
Warren Anatomical Museum 19
West Roxbury Veterans Administration Hospital 29
Withdrawal from the Medical School 45

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